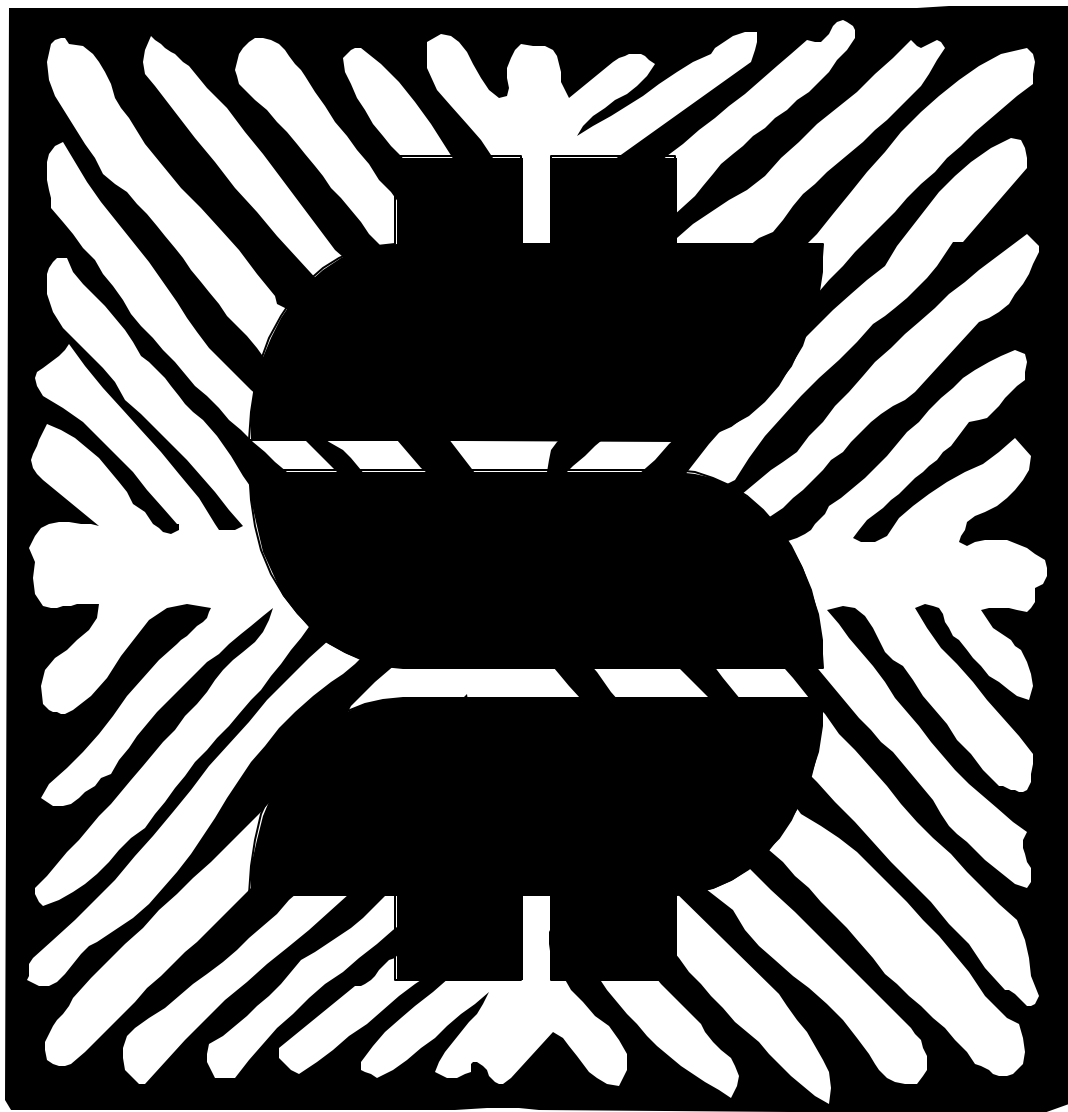


Montana

Informational Wage Rates by Occupation for 1999

*Includes Statewide, U.S. and
Metropolitan Statistical Areas*



Published June 2001
Research and Analysis Bureau, Job Service Division
Montana Department of Labor and Industry

The Montana State Job Service Division maintains 23 local Job Service Workforce Centers in principal cities of Montana. You are invited to call on any of these offices for assistance in filling positions in your organization, obtaining additional labor market information and for receiving other services in connection with your employment needs.

LOCAL JOB SERVICE WORKFORCE CENTER LISTING

ANACONDA
307 East Park
Anaconda, MT 59711
(406-563-3444)

FLATHEAD
427 1st Ave. E.
Kalispell, MT 59901
(406-758-6200)

HELENA
715 Front St.
P.O. Box 201505
Helena, MT 59620-1505
(406-447-3200)

LAKE COUNTY JOB
SERVICE CENTER
417-B Main St.
P.O. Box 970
Polson, MT 59860
(406-883-7880)

BILLINGS
2121-B Rosebud Dr.
Billings, MT 59102
(406-652-3080)

NORTHEAST MONTANA
JOB SERVICE
238 2nd Ave. S.
Glasgow, MT 59230
(406-228-9369)

LEWISTOWN
300 1st Ave. N.
Lewistown, MT 59457
(406-538-8701)

SHELBY
402 1st St. S.
Shelby, MT 59474
(406-434-5161)

BOZEMAN
121 N. Willson
Bozeman, MT 59715
(406-582-9200)

GLENDIVE
211 S. Kendrick
Glendive, MT 59330
(406-365-3314)

LIBBY
417 Mineral Ave./Suite 4
Libby, MT 59923
(406-293-6282)

SIDNEY
211 N. Central
Sidney, MT 59270
(406-482-1204)

BUTTE
2201 White Blvd.
Butte, MT 59702
(406-494-0300)

GREAT FALLS
1018 7th St. S.
Great Falls, MT 59405
(406-791-5800)

LIVINGSTON
220 E. Park
P.O. Box 1199
Livingston, MT 59047
(406-222-0520)

SANDERS COUNTY JOB
SERVICE CENTER
2 Tradewinds Way
P.O. Box 669
Thompson Falls, MT 59873
(406-827-3472)

CUT BANK
1210 E. Main
Cut Bank, MT 59427
(406-873-2191)

BITTERROOT
333 W. Main St.
Hamilton, MT 59840
(406-363-1822)
(406-

MILES CITY
12 N. 10th St.
P.O. Box 1786
Miles City, MT 59301
(406-232-8340)

NORTHEAST MONTANA
JOB SERVICE
217 3rd Ave. S.
Wolf Point, MT 59201
(406-653-1720)

DILLON
730 N. Montana
P.O. Box 1300
Dillon, MT 59725
(406-683-4259)

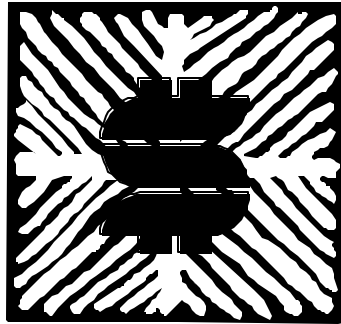
HAVRE
160 1st Ave.
Havre, MT 59501
(406-265-5847)

MISSOULA
539 S. 3rd St. W.
P.O. Box 5027
Missoula, MT 59806
(406-728-7060)

Montana

Informational Wage Rates

by Occupation for 1999

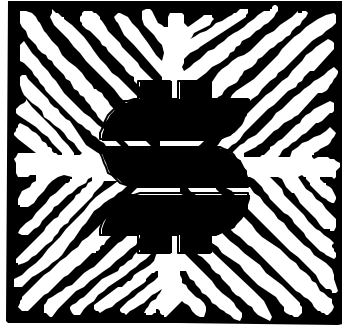


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Department of Labor & Industry
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<http://rad.dli.state.mt.us/>

As always, the Research and Analysis Bureau welcomes questions, comments and suggestions from the public. In addition, we'll do our best to provide information in accessible format, on request, in compliance with the Americans with Disabilities Act.



A sincere thank you is extended to: The many public and private organizations across Montana which took part in this survey; the Research and Analysis Bureau staff who helped with this project: Dave Ducello, Casey Greenwood, Tony Harrah, Tina Hash, Roy Hinman, Julie Huntington, Kate Kahle, Pete Malin, Michelle McFarland, Bob Schleicher and Cathy Shenkle.

**Bob Rafferty, Bureau Chief
Research and Analysis Bureau
Job Service Division
Montana Department of Labor and Industry**

This publication contains wage rates for the U.S., Montana, Cascade, Missoula and Yellowstone County Metropolitan Statistical Areas (MSAs). A Metropolitan Statistical Area (MSA), as determined by the Office of Management and Budget, must have a central city with a population of 50,000 or more. The Cascade County MSA includes Great Falls and Cascade County is located in central Montana. The Missoula County MSA includes Missoula and Missoula County is located in western Montana. The Yellowstone County MSA includes Billings and Yellowstone County is located in south central Montana. This is the third year wage rates are available for the Cascade and Yellowstone County MSAs and the first year for the Missoula County MSA.

Publication users will notice some jobs have wage rates for only certain areas. Wages rates for other areas are not available for those particular jobs. No other county level wage data is available for Montana. The wages contained in this publication cannot be used for Montana Prevailing Wage or Alien Labor Certification purposes.

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Code	Alphabetical Listing of Occupations
13-2011	Accountants and Auditors
23-1021	Administrative Law Judges, Adjudicators and Hearing Officers
11-3011	Administrative Services Managers
25-3011	Adult Literacy, Remedial Education, and GED Teachers and Instructors
11-2011	Advertising and Promotions Managers
41-3011	Advertising Sales Agents
19-1010	Agricultural and Food Scientists
45-2091	Agricultural Equipment Operators
49-3011	Aircraft Mechanics and Service Technicians
53-2011	Airline Pilots, Copilots and Flight Engineers
53-3011	Ambulance Drivers and Attendants, Except Emergency Medical Technicians
39-3091	Amusement and Recreation Attendants
33-9011	Animal Control Workers
27-3010	Announcers
19-3091	Anthropologists and Archeologists
13-2021	Appraisers and Assessors of Real Estate
17-1011	Architects, Except Landscape and Naval
17-3011	Architectural and Civil Drafters
25-4010	Archivists, Curators and Museum Technicians
25-1121	Art, Drama and Music Teachers, Postsecondary
29-9091	Athletic Trainers
19-2021	Atmospheric and Space Scientists
27-4011	Audio and Video Equipment Technicians
49-3021	Automotive Body and Related Repairers
49-3022	Automotive Glass Installers and Repairers
49-3023	Automotive Service Technicians and Mechanics
39-6011	Baggage Porters and Bellhops
33-3011	Bailiffs
51-3011	Bakers
39-5011	Barbers
35-3011	Bartenders
43-3011	Bill and Account Collectors
43-3021	Billing and Posting Clerks and Machine Operators
51-5011	Bindery Workers
25-1042	Biological Science Teachers, Postsecondary
19-4021	Biological Technicians
47-2011	Boilermakers
43-3031	Bookkeeping, Accounting and Auditing Clerks
47-2021	Brickmasons and Blockmasons
27-4012	Broadcast Technicians
43-4011	Brokerage Clerks
13-2031	Budget Analysts
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists
53-3022	Bus Drivers, School
53-3021	Bus Drivers, Transit and Intercity
25-1011	Business Teachers, Postsecondary
51-3021	Butchers and Meat Cutters
51-7011	Cabinetmakers and Bench Carpenters
27-4031	Camera Operators, Television, Video and Motion Picture
29-2031	Cardiovascular Technologists and Technicians
47-2031	Carpenters
17-1021	Cartographers and Photogrammetrists
41-2011	Cashiers

Code	Alphabetical Listing of Occupations
47-2051	Cement Masons and Concrete Finishers
51-9191	Cementing and Gluing Machine Operators and Tenders
35-1011	Chefs and Head Cooks
17-2041	Chemical Engineers
25-1052	Chemistry Teachers, Postsecondary
19-2031	Chemists
11-1011	Chief Executives
39-9011	Child Care Workers
21-1021	Child, Family and School Social Workers
17-2051	Civil Engineers
13-1031	Claims Adjusters, Examiners and Investigators
53-7061	Cleaners of Vehicles and Equipment
21-2011	Clergy
19-3031	Clinical, Counseling and School Psychologists
27-2022	Coaches and Scouts
51-9121	Coating, Painting and Spraying Machine Setters, Operators and Tenders
51-2021	Coil Winders, Tapers and Finishers
49-9091	Coin, Vending and Amusement Machine Servicers and Repairers
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food
53-2012	Commercial Pilots
25-1122	Communications Teachers, Postsecondary
13-1072	Compensation, Benefits and Job Analysis Specialists
13-1041	Compliance Officers, Except Agriculture, Construction, Health and Safety, and Transportation
11-3021	Computer and Information Systems Managers
43-9011	Computer Operators
15-1021	Computer Programmers
25-1021	Computer Science Teachers, Postsecondary
15-1031	Computer Software Engineers, Applications
15-1032	Computer Software Engineers, Systems Software
15-1041	Computer Support Specialists
15-1051	Computer Systems Analysts
49-2011	Computer, Automated Teller and Office Machine Repairers
19-1031	Conservation Scientists
47-4011	Construction and Building Inspectors
47-2061	Construction Laborers
11-9021	Construction Managers
53-7011	Conveyor Operators and Tenders
35-2011	Cooks, Fast Food
35-2012	Cooks, Institution and Cafeteria
35-2014	Cooks, Restaurant
35-2015	Cooks, Short Order
33-3012	Correctional Officers and Jailers
43-4021	Correspondence Clerks
13-1051	Cost Estimators
41-2021	Counter and Rental Clerks
35-3022	Counter Attendants, Cafeteria, Food Concession and Coffee Shop
43-5021	Couriers and Messengers
23-2091	Court Reporters
43-4031	Court, Municipal and License Clerks
53-7021	Crane and Tower Operators
13-2041	Credit Analysts
43-4041	Credit Authorizers, Checkers and Clerks
33-9091	Crossing Guards

Code	Alphabetical Listing of Occupations
51-9021	Crushing, Grinding and Polishing Machine Setters, Operators and Tenders
43-4051	Customer Service Representatives
51-9031	Cutters and Trimmers, Hand
51-4031	Cutting, Punching and Press Machine Setters, Operators and Tenders, Metal and Plastic
43-9021	Data Entry Keyers
15-1061	Database Administrators
41-9011	Demonstrators and Product Promoters
31-9091	Dental Assistants
29-2021	Dental Hygienists
51-9081	Dental Laboratory Technicians
47-5011	Derrick Operators, Oil and Gas
43-9031	Desktop Publishers
33-3021	Detectives and Criminal Investigators
29-2032	Diagnostic Medical Sonographers
29-2051	Dietetic Technicians
29-1031	Dietitians and Nutritionists
35-9011	Dining Room and Cafeteria Attendants and Bartender Helpers
21-2021	Directors, Religious Activities and Education
35-9021	Dishwashers
43-5032	Dispatchers, Except Police, Fire and Ambulance
41-9091	Door-To-Door Sales Workers, News and Street Vendors, and Related Workers
53-3031	Driver/Sales Workers
47-2081	Drywall and Ceiling Tile Installers
47-5021	Earth Drillers, Except Oil and Gas
25-1063	Economics Teachers, Postsecondary
27-3041	Editors
11-9032	Education Administrators, Elementary and Secondary School
11-9033	Education Administrators, Postsecondary
11-9031	Education Administrators, Preschool and Child Care Center/Program
25-1081	Education Teachers, Postsecondary
21-1012	Educational, Vocational and School Counselors
49-2092	Electric Motor, Power Tool and Related Repairers
17-3023	Electrical and Electronic Engineering Technicians
51-2022	Electrical and Electronic Equipment Assemblers
17-3012	Electrical and Electronics Drafters
49-2094	Electrical and Electronics Repairers, Commercial and Industrial Equipment
49-2095	Electrical and Electronics Repairers, Powerhouse, Substation and Relay
17-2071	Electrical Engineers
49-9051	Electrical Power-Line Installers and Repairers
47-2111	Electricians
17-3024	Electro-Mechanical Technicians
49-2097	Electronic Home Entertainment Equipment Installers and Repairers
17-2072	Electronics Engineers, Except Computer
25-2021	Elementary School Teachers, Except Special Education
13-1061	Emergency Management Specialists
29-2041	Emergency Medical Technicians and Paramedics
11-9041	Engineering Managers
25-1032	Engineering Teachers, Postsecondary
25-1123	English Language and Literature Teachers, Postsecondary
17-3025	Environmental Engineering Technicians
17-2081	Environmental Engineers
19-4091	Environmental Science and Protection Technicians, Including Health
19-2041	Environmental Scientists and Specialists, Including Health

Code	Alphabetical Listing of Occupations
53-7032	Excavating and Loading Machine and Dragline Operators
43-6011	Executive Secretaries and Administrative Assistants
29-1062	Family and General Practitioners
25-9021	Farm and Home Management Advisors
49-3041	Farm Equipment Mechanics
45-2092	Farmworkers and Laborers, Crop, Nursery and Greenhouse
45-2093	Farmworkers, Farm and Ranch Animals
43-4071	File Clerks
27-4032	Film and Video Editors
13-2051	Financial Analysts
11-3031	Financial Managers
33-2011	Firefighters
33-2021	Fire Inspectors and Investigators
47-1011	First-Line Supervisors/Managers of Construction Trades and Extraction Workers
45-1011	First-Line Supervisors/Managers of Farming, Fishing and Forestry Workers
33-1021	First-Line Supervisors/Managers of Fire Fighting and Prevention Workers
35-1012	First-Line Supervisors/Managers of Food Preparation and Serving Workers
53-1021	First-Line Supervisors/Managers of Helpers, Laborers and Material Movers, Hand
37-1011	First-Line Supervisors/Managers of Housekeeping and Janitorial Workers
37-1012	First-Line Supervisors/Managers of Landscaping, Lawn Service and Groundskeeping Workers
49-1011	First-Line Supervisors/Managers of Mechanics, Installers and Repairers
41-1012	First-Line Supervisors/Managers of Non-Retail Sales Workers
43-1011	First-Line Supervisors/Managers of Office and Administrative Support Workers
39-1021	First-Line Supervisors/Managers of Personal Service Workers
33-1012	First-Line Supervisors/Managers of Police and Detectives
51-1011	First-Line Supervisors/Managers of Production and Operating Workers
41-1011	First-Line Supervisors/Managers of Retail Sales Workers
53-1031	First-Line Supervisors/Managers of Transportation and Material-Moving Machine and Vehicle Operators
39-9031	Fitness Trainers and Aerobics Instructors
27-1023	Floral Designers
51-3092	Food Batchmakers
35-2021	Food Preparation Workers
35-3041	Food Servers, Nonrestaurant
11-9051	Food Service Managers
25-1124	Foreign Language and Literature Teachers, Postsecondary
19-1032	Foresters
51-4022	Forging Machine Setters, Operators and Tenders, Metal and Plastic
39-4021	Funeral Attendants
51-9051	Furnace, Kiln, Oven, Drier and Kettle Operators and Tenders
51-7021	Furniture Finishers
41-2012	Gaming Change Persons and Booth Cashiers
39-1011	Gaming Supervisors
53-7071	Gas Compressor and Gas Pumping Station Operators
11-1021	General and Operations Managers
19-4041	Geological and Petroleum Technicians
19-2042	Geoscientists, Except Hydrologists and Geographers
47-2121	Glaziers
45-2041	Graders and Sorters, Agricultural Products
27-1024	Graphic Designers
51-9022	Grinding and Polishing Workers, Hand
51-4033	Grinding, Lapping, Polishing and Buffing Machine Tool Setters, Operators and Tenders, Metal and Plastic
39-5012	Hairdressers, Hairstylists and Cosmetologists
47-4041	Hazardous Materials Removal Workers

Code	Alphabetical Listing of Occupations
17-2111	Health and Safety Engineers, Except Mining Safety Engineers and Inspectors
21-1091	Health Educators
25-1071	Health Specialties Teachers, Postsecondary
49-9021	Heating, Air Conditioning and Refrigeration Mechanics and Installers
47-3011	Helpers, Brickmasons, Blockmasons, Stonemasons and Tile and Marble Setters
47-3012	Helpers, Carpenters
47-5081	Helpers, Extraction Workers
49-9098	Helpers, Installation, Maintenance and Repair Workers
47-3014	Helpers, Painters, Paperhangers, Plasterers and Stucco Masons
51-9198	Helpers, Production Workers
47-4051	Highway Maintenance Workers
19-3093	Historians
25-1125	History Teachers, Postsecondary
53-7041	Hoist and Winch Operators
49-9031	Home Appliance Repairers
31-1011	Home Health Aides
35-9031	Hosts and Hostesses, Restaurant, Lounge and Coffee Shop
43-4081	Hotel, Motel and Resort Desk Clerks
43-4161	Human Resources Assistants, Except Payroll and Timekeeping
11-3040	Human Resources Managers
19-2043	Hydrologists
17-3026	Industrial Engineering Technicians
17-2112	Industrial Engineers
49-9041	Industrial Machinery Mechanics
11-3051	Industrial Production Managers
53-7051	Industrial Truck and Tractor Operators
51-9061	Inspectors, Testers, Sorters, Samplers and Weighers
25-9031	Instructional Coordinators
47-2130	Insulation Workers
43-9041	Insurance Claims and Policy Processing Clerks
41-3021	Insurance Sales Agents
13-2053	Insurance Underwriters
27-1025	Interior Designers
29-1063	Internists, General
43-4111	Interviewers, Except Eligibility and Loan
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners
51-9071	Jewelers and Precious Stone and Metal Workers
51-5021	Job Printers
23-1023	Judges, Magistrate Judges and Magistrates
25-2012	Kindergarten Teachers, Except Special Education
53-7062	Laborers and Freight, Stock and Material Movers, Hand
37-3011	Landscaping and Groundskeeping Workers
51-6011	Laundry and Dry-Cleaning Workers
23-2092	Law Clerks
23-1011	Lawyers
43-6012	Legal Secretaries
25-4021	Librarians
43-4121	Library Assistants, Clerical
25-4031	Library Technicians
29-2061	Licensed Practical and Licensed Vocational Nurses
43-4131	Loan Interviewers and Clerks
13-2072	Loan Officers
49-9094	Locksmiths and Safe Repairers

Code	Alphabetical Listing of Occupations
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53-4011	Locomotive Engineers
11-9081	Lodging Managers
45-4023	Log Graders and Scalers
45-4022	Logging Equipment Operators
53-7063	Machine Feeders and Offbearers
51-4041	Machinists
37-2012	Maids and Housekeeping Cleaners
43-9051	Mail Clerks and Mail Machine Operators, Except Postal Service
49-9042	Maintenance and Repair Workers, General
49-9043	Maintenance Workers, Machinery
13-1111	Management Analysts
19-3021	Market Research Analysts
11-2021	Marketing Managers
25-1022	Mathematical Science Teachers, Postsecondary
51-3022	Meat, Poultry and Fish Cutters and Trimmers
49-9011	Mechanical Door Repairers
17-3013	Mechanical Drafters
17-3027	Mechanical Engineering Technicians
17-2141	Mechanical Engineers
29-2012	Medical and Clinical Laboratory Technicians
29-2011	Medical and Clinical Laboratory Technologists
11-9111	Medical and Health Services Managers
21-1022	Medical and Public Health Social Workers
31-9092	Medical Assistants
31-9093	Medical Equipment Preparers
49-9062	Medical Equipment Repairers
29-2071	Medical Records and Health Information Technicians
43-6013	Medical Secretaries
31-9094	Medical Transcriptionists
13-1121	Meeting and Convention Planners
21-1023	Mental Health and Substance Abuse Social Workers
21-1014	Mental Health Counselors
27-1026	Merchandise Displayers and Window Trimmers
43-5041	Meter Readers, Utilities
19-1022	Microbiologists
25-2022	Middle School Teachers, Except Special and Vocational Education
49-9044	Millwrights
17-2151	Mining and Geological Engineers, Including Mining Safety Engineers
51-9023	Mixing and Blending Machine Setters, Operators and Tenders
49-3042	Mobile Heavy Equipment Mechanics, Except Engines
39-3021	Motion Picture Projectionists
49-3051	Motorboat Mechanics
49-3052	Motorcycle Mechanics
51-4081	Multiple Machine Tool Setters, Operators and Tenders, Metal and Plastic
27-2042	Musicians and Singers
11-9121	Natural Sciences Managers
15-1071	Network and Computer Systems Administrators
15-1081	Network Systems and Data Communications Analysts
43-4141	New Accounts Clerks
27-3020	News Analysts, Reporters and Correspondents
39-2021	Nonfarm Animal Caretakers
29-2033	Nuclear Medicine Technologists
31-1012	Nursing Aides, Orderlies and Attendants

Code	Alphabetical Listing of Occupations
25-1072	Nursing Instructors and Teachers, Postsecondary
29-9010	Occupational Health and Safety Specialists and Technicians
29-1122	Occupational Therapists
43-9061	Office Clerks, General
43-9071	Office Machine Operators, Except Computer
47-2073	Operating Engineers and Other Construction Equipment Operators
15-2031	Operations Research Analysts
51-9083	Ophthalmic Laboratory Technicians
29-2081	Opticians, Dispensing
43-4151	Order Clerks
49-3053	Outdoor Power Equipment and Other Small Engine Mechanics
51-9111	Packaging and Filling Machine Operators and Tenders
53-7064	Packers and Packagers, Hand
47-2141	Painters, Construction and Maintenance
51-9123	Painting, Coating and Decorating Workers
23-2011	Paralegals and Legal Assistants
53-6021	Parking Lot Attendants
41-2022	Parts Salespersons
47-2071	Paving, Surfacing and Tamping Equipment Operators
43-3051	Payroll and Timekeeping Clerks
29-1065	Pediatricians, General
39-9021	Personal and Home Care Aides
13-2052	Personal Financial Advisors
37-2021	Pest Control Workers
37-3012	Pesticide Handlers, Sprayers and Applicators, Vegetation
17-2171	Petroleum Engineers
51-8093	Petroleum Pump System Operators, Refinery Operators and Gaugers
29-1051	Pharmacists
31-9095	Pharmacy Aides
29-2052	Pharmacy Technicians
25-1126	Philosophy and Religion Teachers, Postsecondary
27-4021	Photographers
51-9131	Photographic Process Workers
51-9132	Photographic Processing Machine Operators
31-2022	Physical Therapist Aides
31-2021	Physical Therapist Assistants
29-1123	Physical Therapists
29-1071	Physician Assistants
47-2151	Pipelayers
47-2152	Plumbers, Pipefitters and Steamfitters
33-3051	Police and Sheriff's Patrol Officers
43-5031	Police, Fire and Ambulance Dispatchers
25-1065	Political Science Teachers, Postsecondary
43-5051	Postal Service Clerks
43-5052	Postal Service Mail Carriers
43-5053	Postal Service Mail Sorters, Processors and Processing Machine Operators
11-9131	Postmasters and Mail Superintendents
51-8012	Power Distributors and Dispatchers
51-5022	Prepress Technicians and Workers
25-2011	Preschool Teachers, Except Special Education
51-6021	Pressers, Textile, Garment and Related Materials
51-5023	Printing Machine Operators
43-3061	Procurement Clerks

Code	Alphabetical Listing of Occupations
27-2012	Producers and Directors
43-5061	Production, Planning and Expediting Clerks
43-9081	Proofreaders and Copy Markers
11-9141	Property, Real Estate and Community Association Managers
31-1013	Psychiatric Aides
25-1066	Psychology Teachers, Postsecondary
11-2031	Public Relations Managers
27-3031	Public Relations Specialists
13-1021	Purchasing Agents and Buyers, Farm Products
13-1023	Purchasing Agents, Except Wholesale, Retail and Farm Products
11-3061	Purchasing Managers
29-1124	Radiation Therapists
29-2034	Radiologic Technologists and Technicians
53-4013	Rail Yard Engineers, Dinkey Operators and Hostlers
53-4031	Railroad Conductors and Yardmasters
47-4061	Rail-Track Laying and Maintenance Equipment Operators
41-9022	Real Estate Sales Agents
43-4171	Receptionists and Information Clerks
39-9032	Recreation Workers
29-1125	Recreational Therapists
49-3092	Recreational Vehicle Service Technicians
53-7081	Refuse and Recyclable Material Collectors
29-1111	Registered Nurses
21-1015	Rehabilitation Counselors
47-2171	Reinforcing Iron and Rebar Workers
43-4181	Reservation and Transportation Ticket Agents and Travel Clerks
39-9041	Residential Advisors
29-1126	Respiratory Therapists
29-2054	Respiratory Therapy Technicians
41-2031	Retail Salespersons
47-2181	Roofers
47-5012	Rotary Drill Operators, Oil and Gas
47-5071	Roustabouts, Oil and Gas
41-9031	Sales Engineers
11-2022	Sales Managers
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products
41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products
51-7041	Sawing Machine Setters, Operators and Tenders, Wood
25-2031	Secondary School Teachers, Except Special and Vocational Education
43-6014	Secretaries, Except Legal, Medical and Executive
41-3031	Securities, Commodities and Financial Services Sales Agents
33-9032	Security Guards
25-3021	Self-Enrichment Education Teachers
51-9012	Separating, Filtering, Clarifying, Precipitating and Still Machine Setters, Operators and Tenders
53-6031	Service Station Attendants
47-5013	Service Unit Operators, Oil, Gas and Mining
27-1027	Set and Exhibit Designers
51-6031	Sewing Machine Operators
47-2211	Sheet Metal Workers
43-5071	Shipping, Receiving and Traffic Clerks
51-3023	Slaughterers and Meat Packers
11-9151	Social and Community Service Managers
21-1093	Social and Human Service Assistants

Code	Alphabetical Listing of Occupations
25-1067	Sociology Teachers, Postsecondary
25-2042	Special Education Teachers, Middle School
25-2041	Special Education Teachers, Preschool, Kindergarten and Elementary School
25-2043	Special Education Teachers, Secondary School
29-1127	Speech-Language Pathologists
51-8021	Stationary Engineers and Boiler Operators
43-9111	Statistical Assistants
15-2041	Statisticians
43-5081	Stock Clerks and Order Fillers
47-2022	Stonemasons
51-2041	Structural Metal Fabricators and Fitters
21-1011	Substance Abuse and Behavioral Disorder Counselors
29-1067	Surgeons
29-2055	Surgical Technologists
19-3022	Survey Researchers
17-3031	Surveying and Mapping Technicians
17-1022	Surveyors
43-2011	Switchboard Operators, Including Answering Service
51-6052	Tailors, Dressmakers and Custom Sewers
13-2081	Tax Examiners, Collectors and Revenue Agents
13-2082	Tax Preparers
53-3041	Taxi Drivers and Chauffeurs
25-9041	Teacher Assistants
51-2092	Team Assemblers
27-3042	Technical Writers
49-2022	Telecommunications Equipment Installers and Repairers, Except Line Installers
49-9052	Telecommunications Line Installers and Repairers
41-9041	Telemarketers
43-3071	Tellers
47-2044	Tile and Marble Setters
49-3093	Tire Repairers and Changers
23-2093	Title Examiners, Abstractors and Searchers
51-4194	Tool Grinders, Filers and Sharpeners
39-6021	Tour Guides and Escorts
13-1073	Training and Development Specialists
53-6051	Transportation Inspectors
11-3071	Transportation, Storage and Distribution Managers
41-3041	Travel Agents
39-6022	Travel Guides
53-3032	Truck Drivers, Heavy and Tractor-Trailer
53-3033	Truck Drivers, Light Or Delivery Services
27-2023	Umpires, Referees and Other Sports Officials
51-6093	Upholsterers
19-3051	Urban and Regional Planners
39-3031	Ushers, Lobby Attendants and Ticket Takers
29-1131	Veterinarians
31-9096	Veterinary Assistants and Laboratory Animal Caretakers
29-2056	Veterinary Technologists and Technicians
25-1194	Vocational Education Teachers, Postsecondary
25-2032	Vocational Education Teachers, Secondary School
35-3031	Waiters and Waitresses
51-8031	Water and Liquid Waste Treatment Plant and System Operators
43-5111	Weighers, Measurers, Checkers and Samplers, Recordkeeping

Alphabetical Listing of Occupations	
Code	
51-4121	Welders, Cutters, Solderers and Brazers
53-7073	Wellhead Pumpers
13-1022	Wholesale and Retail Buyers, Except Farm Products
51-7042	Woodworking Machine Setters, Operators and Tenders, Except Sawing
43-9022	Word Processors and Typists
27-3043	Writers and Authors
19-1023	Zoologists and Wildlife Biologists

Introduction

The Occupational Employment Statistics (OES) wage survey is an annual mail survey that measures occupational employment and wage rates for wage and salary workers in nonfarm establishments covered by unemployment insurance.

Occupational wage information is useful in business, educational and personal career planning:

- Montana employers use the information to determine wages and benefits they offer their employees.
- Out-of-state firms need to know what they need to pay employees if they relocate to Montana.
- Educational planners use the information for planning curriculums.
- School counselors use the information in career counseling.
- Individuals want to know what they should expect to be paid for work in a specific occupation.

The survey is conducted to help meet the need for standard local and national wage information. The Bureau of Labor Statistics (BLS) and the Employment and Training Administration (ETA) provide funding for the survey. BLS provides the procedures and technical support. Each state collects its own data.

The OES wage survey data presented in this publication has a fourth-quarter 1999 reference period and is based on information collected during the 1997, 1998 and 1999 surveys. The three years of sample responses for employment and wage data have been combined to produce these results. The 1997 and 1998 wage data have been adjusted to the 1999 reference period by using the over-the-year wage change in the most applicable Employment Cost Index series.

Information is collected and presented for all industries. The OES, using the new Standard Occupational Classification (SOC) coding system, categorizes workers into 770 detailed occupations, although all 770 occupations may not be represented for Montana. (See page 110 for more information on the classification system.) The survey excludes the self-employed, owners/partners of unincorporated firms and unpaid family workers. Employees are reported in the occupation in which they are working—not necessarily that for which they were trained. Wages for the OES survey are straight-time, gross pay, and do **not** include any of the following:

- back pay
- jury duty pay
- nonproduction bonus (e.g. holiday bonus)
- overtime pay
- severance pay
- shift differential
- tuition repayments

Wage rates shown were compiled for Montana using a national survey system. No differentiation was made between union and nonunion, full time or part time, or between public and private employee wages. Reported average wages include wages paid to both entry and experienced workers. Comparisons with previous surveys may not be appropriate because of changes in data collection methodology.

Wages printed in this publication *cannot* be used for alien labor certification or prevailing wage purposes, or in place of any other official wage program. Some workers in some occupations must be paid prevailing wage rates when involved with public works contracts. *Official prevailing wage rates can be obtained from the Montana Department of Labor and Industry's Research and Analysis Bureau at any of the telephone numbers listed in the front of this publication or at our website at <http://rad.dli.state.mt.us/>.*

Employers were asked to report wages by occupation for each individual employee. The 12 wage ranges are shown below:

	A	B	C	D	E	F	G	H	I	J	K	L
Hourly (part time or full time)	Under \$6.75	\$6.75- \$8.49	\$8.50- \$10.74	\$10.75- \$13.49	\$13.50- \$16.99	\$17.00- \$21.49	\$21.50- \$27.24	\$27.25- \$34.49	\$34.50- \$43.74	\$43.75- \$55.49	\$55.50- \$69.99	\$70.00 and over
Annual (full time only)	Under \$14,040	\$14,040- \$17,679	\$17,680- \$22,359	\$22,360- \$28,079	\$28,080- \$35,359	\$35,360- \$44,719	\$44,720- \$56,679	\$56,680- \$71,759	\$71,760- \$90,999	\$91,000- \$115,439	\$115,440- \$145,599	\$145,600 and over

Please keep the following definitions in mind when reviewing the published wage rates:

- **Mean Wage:** A measure of central tendency. The sum of all values of all observations divided by the number of observations. It is also called the arithmetic average. If some values are far removed from the others (outlying), they can substantially influence the mean wage.
- **Median Wage:** Middle value when wages are arranged in order of increasing magnitude. One-half of the wages are above, and one-half of the wages are below the median wage.
- **Middle Range:** Lower bound is the 25th percentile value and higher bound is the 75th percentile value when wages are arranged in order of increasing magnitude. For the lower bound, one-quarter of the wages are below, and three-quarters of the wages are above the 25th percentile value. For the higher bound, three-quarters of the wages are below, and one-quarter of the wages are above the 75th percentile value.
- **Annual Average:** Annual average wages are the mean or average wages on an annualized basis.

1999 Montana Occupational Wage Survey

Occupational Title and Code	MSA or Area	Mean Wage	Median Wage	Middle Range		Annual Average
Management Occupations						
Chief Executives						
11-1011	U.S.	48.67	52.08	32.57	- #	101,240
	Montana	40.89	34.57	22.48	- #	85,050
	Yellowstone County MSA	32.56	27.48	23.34	- 38.60	67,730
	Cascade County MSA	37.40	31.46	20.18	- 55.38	77,790
	Missoula County MSA	43.20	42.25	23.76	- *	89,850
General and Operations Managers						
11-1021	U.S.	31.69	27.23	18.50	- 41.77	65,910
	Montana	23.10	19.74	13.15	- 28.21	48,050
	Yellowstone County MSA	23.86	19.60	14.22	- 29.11	49,620
	Cascade County MSA	18.40	14.13	8.68	- 22.19	38,280
	Missoula County MSA	28.41	23.46	18.03	- 34.86	59,090
Advertising and Promotions Managers						
11-2011	U.S.	28.32	24.30	16.49	- 36.80	58,910
	Montana	18.56	13.35	10.36	- 24.28	38,600
	Cascade County MSA	13.14	11.93	6.33	- 19.11	27,340
	Missoula County MSA	22.49	18.23	13.11	- 30.15	46,780
Marketing Managers						
11-2021	U.S.	34.14	32.18	22.40	- 43.60	71,010
	Montana	23.39	20.77	15.37	- 29.94	48,650
	Yellowstone County MSA	23.74	23.50	17.40	- 31.13	49,380
Sales Managers						
11-2022	U.S.	33.44	30.59	21.35	- 43.01	69,560
	Montana	23.10	18.98	12.83	- 28.91	48,050
	Yellowstone County MSA	20.14	18.56	13.69	- 22.71	41,900
	Cascade County MSA	19.26	21.90	11.56	- 26.20	40,060
	Missoula County MSA	35.22	36.40	30.64	- 40.73	73,260
Public Relations Managers						
11-2031	U.S.	27.77	24.77	17.80	- 34.81	57,770
	Montana	17.62	13.17	11.03	- 24.83	36,650
	Yellowstone County MSA	14.55	12.50	9.97	- 19.29	30,270
Administrative Services Managers						
11-3011	U.S.	23.36	20.78	14.38	- 29.89	48,580
	Montana	15.76	13.36	10.09	- 20.12	32,780
	Yellowstone County MSA	12.03	11.46	6.35	- 13.28	25,030
	Cascade County MSA	14.38	13.63	10.59	- 16.28	29,920
	Missoula County MSA	20.28	19.67	14.83	- 25.28	42,170

indicates a wage greater than \$70 per hour or \$145,600 per year; * indicates a wage estimate is not available

1999 Montana Occupational Wage Survey

Occupational Title and Code	MSA or Area	Mean Wage	Median Wage	Middle Range	Annual Average
Computer and Information Systems Managers					
11-3021	U.S.	35.79	34.97	26.55 - 43.78	74,430
	Montana	24.68	24.21	16.86 - 31.14	51,340
	Yellowstone County MSA	21.76	19.22	14.82 - 30.00	45,260
	Cascade County MSA	25.45	24.17	14.70 - 36.92	52,940
	Missoula County MSA	27.66	29.20	20.60 - 35.38	57,520
Financial Managers					
11-3031	U.S.	33.22	30.62	22.31 - 41.75	69,100
	Montana	22.26	19.78	15.39 - 25.95	46,310
	Yellowstone County MSA	23.72	20.90	13.44 - 26.53	49,340
	Cascade County MSA	24.18	21.72	14.89 - 32.16	50,290
	Missoula County MSA	22.78	21.02	15.99 - 26.44	47,380
Human Resources Managers					
11-3040	U.S.	27.34	25.55	18.60 - 36.90	56,880
	Montana	22.96	21.05	15.64 - 28.72	47,760
	Yellowstone County MSA	21.53	20.29	15.65 - 26.68	44,780
	Missoula County MSA	23.61	23.20	15.40 - 30.69	49,110
Industrial Production Managers					
11-3051	U.S.	29.56	28.64	20.97 - 39.38	61,480
	Montana	23.11	20.25	13.78 - 29.81	48,070
	Yellowstone County MSA	30.60	21.08	15.31 - 46.86	63,640
	Missoula County MSA	22.33	19.83	16.03 - 30.75	46,440
Purchasing Managers					
11-3061	U.S.	24.61	22.31	15.96 - 32.96	51,200
	Montana	18.81	17.95	12.51 - 23.29	39,130
	Yellowstone County MSA	20.26	20.04	16.40 - 23.81	42,140
	Cascade County MSA	20.26	18.50	12.91 - 24.72	42,140
	Missoula County MSA	22.12	20.18	17.14 - 25.93	46,020
Transportation, Storage and Distribution Managers					
11-3071	U.S.	26.03	24.51	18.55 - 31.97	54,140
	Montana	25.08	22.95	12.62 - 33.22	52,160
	Yellowstone County MSA	18.08	14.72	11.11 - 20.40	37,600
Construction Managers					
11-9021	U.S.	28.92	26.75	20.26 - 34.87	60,160
	Montana	23.91	18.72	15.41 - 25.90	49,730
	Yellowstone County MSA	22.35	19.35	15.65 - 25.52	46,490
Education Administrators, Preschool and Child Care Center/Program					
11-9031	U.S.	18.63	15.81	11.41 - 22.80	38,750
	Montana	27.70	30.27	28.16 - 32.39	57,620

indicates a wage greater than \$70 per hour or \$145,600 per year; * indicates a wage estimate is not available

1999 Montana Occupational Wage Survey

Occupational Title and Code	MSA or Area	Mean Wage	Median Wage	Middle Range	Annual Average
Education Administrators, Elementary and Secondary School					
11-9032	U.S.			annual wages only	65,480
	Montana			annual wages only	51,170
	Cascade County MSA			annual wages only	44,850
	Missoula County MSA			annual wages only	55,040
Education Administrators, Postsecondary					
11-9033	U.S.	28.93	26.52	19.21 - 36.73	60,170
	Montana	32.50	32.23	23.03 - 41.23	67,600
Engineering Managers					
11-9041	U.S.	39.21	38.52	30.53 - 48.18	81,560
	Montana	28.87	28.13	22.62 - 34.15	60,050
	Yellowstone County MSA	27.26	29.21	15.64 - 37.67	56,700
Food Service Managers					
11-9051	U.S.	16.04	14.92	11.63 - 19.14	33,360
	Montana	11.52	10.56	8.17 - 13.19	23,970
	Yellowstone County MSA	9.29	8.16	7.46 - 10.01	19,320
	Cascade County MSA	11.22	9.88	8.78 - 11.93	23,340
	Missoula County MSA	12.25	11.76	9.26 - 13.64	25,470
Lodging Managers					
11-9081	U.S.	16.34	14.49	11.06 - 19.79	33,980
	Montana	8.51	6.24	5.69 - 9.34	17,690
Medical and Health Services Managers					
11-9111	U.S.	27.93	25.82	20.35 - 33.10	58,090
	Montana	22.61	22.41	15.85 - 27.63	47,030
	Yellowstone County MSA	28.32	25.57	21.63 - 32.62	58,910
	Cascade County MSA	14.67	14.49	9.89 - 17.37	30,520
	Missoula County MSA	20.81	21.86	12.36 - 26.42	43,270
Natural Sciences Managers					
11-9121	U.S.	34.84	33.75	24.98 - 43.41	72,470
	Montana	25.81	24.28	20.13 - 30.46	53,690
Postmasters and Mail Superintendents					
11-9131	U.S.	21.78	21.16	18.52 - 25.29	45,300
	Montana	19.10	19.19	16.83 - 21.42	39,730
Property, Real Estate and Community Association Managers					
11-9141	U.S.	19.68	16.73	11.29 - 24.85	40,940
	Montana	23.54	23.55	18.02 - 28.77	48,970
	Yellowstone County MSA	24.92	25.62	19.55 - 32.21	51,840

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1999 Montana Occupational Wage Survey

Occupational Title and Code	MSA or Area	Mean Wage	Median Wage	Middle Range	Annual Average
Social and Community Service Managers					
11-9151	U.S.	19.41	17.74	13.64 - 23.77	40,370
	Montana	12.22	10.66	8.75 - 15.38	25,410
	Yellowstone County MSA	15.10	15.58	14.06 - 17.29	31,410
	Missoula County MSA	17.30	15.41	13.53 - 18.76	35,980
Business and Financial Operations Occupations					
Purchasing Agents and Buyers, Farm Products					
13-1021	U.S.	21.08	16.94	13.19 - 24.90	43,840
	Montana	15.37	12.30	9.86 - 21.67	31,960
Wholesale and Retail Buyers, Except Farm Products					
13-1022	U.S.	19.12	16.52	12.27 - 23.00	39,770
	Montana	12.63	10.74	9.33 - 15.18	26,270
	Yellowstone County MSA	13.16	12.41	9.72 - 15.71	27,370
	Missoula County MSA	13.04	10.42	8.53 - 15.40	27,120
Purchasing Agents, Except Wholesale, Retail and Farm Products					
13-1023	U.S.	20.44	19.01	14.82 - 24.68	42,510
	Montana	16.93	15.92	12.02 - 20.47	35,210
	Yellowstone County MSA	18.17	16.85	12.83 - 22.14	37,790
	Cascade County MSA	17.98	17.79	13.20 - 20.98	37,400
	Missoula County MSA	18.67	17.82	14.12 - 23.92	38,830
Claims Adjusters, Examiners and Investigators					
13-1031	U.S.	20.17	18.69	14.74 - 24.44	41,960
	Montana	17.03	17.17	14.52 - 19.58	35,420
	Cascade County MSA	18.49	18.96	17.70 - 20.23	38,470
Compliance Officers, Except Agriculture, Construction, Health and Safety, and Transportation					
13-1041	U.S.	20.17	18.56	14.65 - 24.58	41,960
	Montana	15.12	14.84	12.15 - 17.11	31,460
	Cascade County MSA	15.72	12.72	10.53 - 16.88	32,700
	Missoula County MSA	10.81	8.22	7.48 - 14.95	22,490
Cost Estimators					
13-1051	U.S.	22.12	20.36	15.67 - 27.15	46,000
	Montana	16.90	15.99	13.80 - 19.82	35,160
	Yellowstone County MSA	18.93	18.43	15.14 - 22.00	39,370
	Cascade County MSA	16.98	16.73	14.62 - 19.40	35,310
	Missoula County MSA	16.83	15.39	11.58 - 21.18	35,000
Emergency Management Specialists					
13-1061	U.S.	19.87	17.84	14.07 - 24.78	41,330
	Montana	14.66	13.86	9.45 - 18.50	30,500

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1999 Montana Occupational Wage Survey

Occupational Title and Code	MSA or Area	Mean Wage	Median Wage	Middle Range	Annual Average
Compensation, Benefits and Job Analysis Specialists					
13-1072	U.S.	20.09	18.98	14.56 - 24.44	41,800
	Montana	17.19	15.23	12.66 - 19.74	35,750
	Yellowstone County MSA	13.78	14.27	11.62 - 15.72	28,670
Training and Development Specialists					
13-1073	U.S.	19.96	18.54	13.90 - 25.01	41,510
	Montana	15.16	15.03	11.25 - 16.86	31,530
	Yellowstone County MSA	17.39	17.46	12.88 - 20.06	36,160
	Cascade County MSA	22.99	23.60	20.74 - 26.05	47,820
	Missoula County MSA	14.20	14.63	8.32 - 16.39	29,540
Management Analysts					
13-1111	U.S.	28.05	25.91	19.84 - 33.39	58,350
	Montana	23.21	21.26	17.41 - 28.76	48,280
	Missoula County MSA	26.86	26.34	19.44 - 32.95	55,860
Meeting and Convention Planners					
13-1121	U.S.	17.27	16.24	12.63 - 20.54	35,930
	Montana	13.38	12.09	9.51 - 16.16	27,830
Accountants and Auditors					
13-2011	U.S.	21.31	19.16	15.13 - 25.00	44,320
	Montana	18.14	15.73	12.76 - 20.08	37,720
	Yellowstone County MSA	19.53	15.74	12.35 - 19.92	40,630
	Cascade County MSA	16.53	15.48	12.47 - 19.54	34,390
	Missoula County MSA	20.98	16.57	14.33 - 24.92	43,650
Appraisers and Assessors of Real Estate					
13-2021	U.S.	20.04	18.12	12.44 - 25.01	41,670
	Montana	15.94	14.64	11.45 - 20.59	33,160
	Yellowstone County MSA	24.26	24.10	17.16 - 29.59	50,450
Budget Analysts					
13-2031	U.S.	23.64	22.41	17.93 - 28.69	49,170
	Montana	19.14	18.52	15.86 - 21.01	39,800
Credit Analysts					
13-2041	U.S.	20.28	17.96	13.75 - 24.38	42,180
	Montana	18.66	17.31	13.69 - 22.22	38,810
Financial Analysts					
13-2051	U.S.	27.09	23.65	18.16 - 32.29	56,340
	Montana	19.75	18.53	15.69 - 21.28	41,070

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1999 Montana Occupational Wage Survey

Occupational Title and Code	MSA or Area	Mean Wage	Median Wage	Middle Range	Annual Average
Personal Financial Advisors					
13-2052	U.S.	31.10	25.26	15.32 - 44.57	64,680
	Montana	27.40	23.48	15.44 - 33.82	57,000
	Yellowstone County MSA	28.78	25.29	15.53 - 45.13	59,860
Insurance Underwriters					
13-2053	U.S.	21.61	19.69	15.32 - 25.98	44,940
	Montana	19.39	16.62	13.25 - 22.60	40,320
	Missoula County MSA	26.49	23.09	18.68 - 32.88	55,090
Loan Officers					
13-2072	U.S.	21.74	18.72	13.85 - 26.64	45,210
	Montana	19.95	18.32	14.11 - 25.43	41,490
	Yellowstone County MSA	13.81	11.84	9.89 - 13.21	28,720
	Missoula County MSA	19.11	16.87	14.07 - 21.24	39,740
Tax Examiners, Collectors and Revenue Agents					
13-2081	U.S.	19.36	17.75	13.57 - 24.96	40,270
	Montana	17.86	17.23	11.10 - 23.75	37,140
Tax Preparers					
13-2082	U.S.	15.37	13.04	8.48 - 18.86	31,970
	Montana	12.14	12.14	11.33 - 12.94	25,250
Computer and Mathematical Occupations					
Computer Programmers					
15-1021	U.S.	26.42	24.55	18.65 - 34.99	54,960
	Montana	18.59	17.73	14.42 - 21.05	38,660
	Cascade County MSA	17.36	16.94	12.32 - 21.38	36,110
	Missoula County MSA	16.29	15.45	14.14 - 18.31	33,880
Computer Software Engineers, Applications					
15-1031	U.S.	31.62	30.45	23.98 - 38.56	65,780
	Montana	22.58	22.87	16.07 - 29.85	46,960
Computer Software Engineers, Systems Software					
15-1032	U.S.	31.84	31.07	24.32 - 39.07	66,230
	Montana	26.43	25.87	22.42 - 32.06	54,970
Computer Support Specialists					
15-1041	U.S.	18.95	17.54	13.68 - 22.93	39,410
	Montana	13.33	13.12	10.20 - 16.07	27,720
	Yellowstone County MSA	13.08	12.34	10.86 - 14.49	27,210
	Cascade County MSA	12.08	12.45	8.44 - 15.32	25,130
	Missoula County MSA	13.85	13.91	11.81 - 15.89	28,820

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1999 Montana Occupational Wage Survey

Occupational Title and Code	MSA or Area	Mean Wage	Median Wage	Middle Range	Annual Average
Computer Systems Analysts					
15-1051	U.S.	27.85	26.91	21.59 - 33.16	57,920
	Montana	24.30	23.70	19.62 - 28.42	50,550
	Missoula County MSA	21.67	20.82	17.51 - 25.65	45,080
Database Administrators					
15-1061	U.S.	25.26	23.83	17.91 - 33.57	52,550
	Montana	19.17	17.22	12.05 - 24.51	39,870
Network and Computer Systems Administrators					
15-1071	U.S.	24.08	22.98	18.25 - 28.67	50,090
	Montana	17.89	16.77	13.40 - 22.61	37,220
	Yellowstone County MSA	17.69	16.26	14.52 - 19.95	36,800
	Cascade County MSA	20.57	20.25	15.13 - 24.93	42,790
	Missoula County MSA	20.77	21.57	17.00 - 24.88	43,210
Network Systems and Data Communications Analysts					
15-1081	U.S.	26.78	25.24	19.54 - 32.14	55,710
	Montana	20.53	18.54	15.73 - 21.49	42,700
	Missoula County MSA	16.89	16.50	14.68 - 19.14	35,130
Operations Research Analysts					
15-2031	U.S.	25.89	23.35	17.77 - 31.16	53,850
	Montana	20.19	20.30	17.19 - 23.68	42,000
Statisticians					
15-2041	U.S.	24.35	22.65	16.69 - 31.62	50,650
	Montana	17.37	15.86	12.22 - 21.60	36,130
Architecture and Engineering Occupations					
Architects, Except Landscape and Naval					
17-1011	U.S.	25.68	23.67	18.36 - 32.85	53,410
	Montana	21.05	20.09	15.42 - 25.14	43,790
Cartographers and Photogrammetrists					
17-1021	U.S.	19.74	19.20	14.16 - 24.45	41,060
	Montana	16.33	15.40	12.50 - 19.92	33,970
Surveyors					
17-1022	U.S.	17.50	16.61	12.13 - 21.14	36,400
	Montana	18.00	16.62	13.89 - 23.22	37,440
	Yellowstone County MSA	15.90	15.31	11.90 - 20.38	33,060

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1999 Montana Occupational Wage Survey

Occupational Title and Code	MSA or Area	Mean Wage	Median Wage	Middle Range	Annual Average
Chemical Engineers					
17-2041	U.S.	30.89	31.84	24.78 - 39.62	64,250
	Montana	30.11	31.48	26.00 - 37.54	62,620
	Yellowstone County MSA	31.02	32.50	27.35 - 38.36	64,520
Civil Engineers					
17-2051	U.S.	26.76	25.83	20.57 - 33.27	55,660
	Montana	22.56	21.56	17.47 - 27.02	46,920
	Yellowstone County MSA	28.02	29.08	23.83 - 34.31	58,280
	Cascade County MSA	22.05	22.24	16.72 - 25.72	45,870
Electrical Engineers					
17-2071	U.S.	29.58	29.15	23.22 - 35.63	61,520
	Montana	26.77	25.94	20.53 - 32.48	55,670
	Yellowstone County MSA	30.98	30.45	24.81 - 37.09	64,440
Electronics Engineers, Except Computer					
17-2072	U.S.	30.49	29.96	24.18 - 36.36	63,410
	Montana	20.25	19.30	16.13 - 23.77	42,110
Environmental Engineers					
17-2081	U.S.	27.43	26.39	20.77 - 32.73	57,050
	Montana	23.43	22.38	16.72 - 27.00	48,730
	Yellowstone County MSA	24.55	22.70	16.57 - 26.88	51,070
	Cascade County MSA	26.33	25.94	23.72 - 29.37	54,770
Health and Safety Engineers, Except Mining Safety Engineers and Inspectors					
17-2111	U.S.	25.81	25.16	20.85 - 30.73	53,680
	Montana	23.86	24.46	17.76 - 31.42	49,620
Industrial Engineers					
17-2112	U.S.	27.62	26.81	21.93 - 32.85	57,450
	Montana	19.82	19.71	13.84 - 25.38	41,220
Mechanical Engineers					
17-2141	U.S.	27.41	26.85	21.53 - 35.25	57,010
	Montana	23.39	22.68	18.24 - 27.63	48,650
	Yellowstone County MSA	23.84	23.35	18.14 - 28.68	49,590
Mining and Geological Engineers, Including Mining Safety Engineers					
17-2151	U.S.	29.76	28.03	22.25 - 35.94	61,900
	Montana	26.28	25.93	23.47 - 29.73	54,650
Petroleum Engineers					
17-2171	U.S.	34.99	35.71	27.06 - 45.79	72,780
	Montana	29.68	30.64	23.45 - 36.86	61,740

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1999 Montana Occupational Wage Survey

Occupational Title and Code	MSA or Area	Mean Wage	Median Wage	Middle Range	Annual Average
Architectural and Civil Drafters					
17-3011	U.S.	17.40	16.37	13.48 - 20.44	36,190
	Montana	14.76	13.26	10.06 - 19.45	30,700
	Yellowstone County MSA	16.64	15.18	12.74 - 22.13	34,610
Electrical and Electronics Drafters					
17-3012	U.S.	18.82	17.93	13.89 - 22.90	39,150
	Montana	18.56	18.21	14.25 - 22.50	38,610
Mechanical Drafters					
17-3013	U.S.	18.57	17.37	13.89 - 21.78	38,620
	Montana	12.62	11.51	9.84 - 13.23	26,250
Electrical and Electronic Engineering Technicians					
17-3023	U.S.	18.94	18.45	14.47 - 22.58	39,390
	Montana	18.79	18.84	15.34 - 21.30	39,080
	Yellowstone County MSA	20.39	19.76	16.63 - 23.90	42,410
	Missoula County MSA	18.72	18.73	13.57 - 23.03	38,940
Electro-Mechanical Technicians					
17-3024	U.S.	17.91	16.79	12.75 - 21.40	37,250
	Montana	14.86	14.39	11.68 - 18.08	30,910
Environmental Engineering Technicians					
17-3025	U.S.	16.86	15.58	12.14 - 20.28	35,060
	Montana	14.20	14.20	10.38 - 17.69	29,550
Industrial Engineering Technicians					
17-3026	U.S.	20.83	19.41	15.17 - 24.88	43,320
	Montana	22.40	20.50	17.98 - 27.80	46,600
Mechanical Engineering Technicians					
17-3027	U.S.	19.50	18.41	14.86 - 22.76	40,560
	Montana	17.52	16.78	11.92 - 23.25	36,440
Surveying and Mapping Technicians					
17-3031	U.S.	14.07	12.87	10.12 - 17.08	29,260
	Montana	14.12	12.89	10.83 - 16.96	29,370

Life, Physical and Social Science Occupations

Agricultural and Food Scientists					
19-1010	U.S.	21.69	20.56	16.11 - 25.86	45,110
	Montana	22.06	22.03	15.96 - 26.12	45,890

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1999 Montana Occupational Wage Survey							
Occupational Title and Code	MSA or Area	Mean Wage	Median Wage	Middle Range		Annual Average	
Microbiologists							
19-1022	U.S.	24.37	22.21	17.56	- 29.60	50,690	
	Montana	18.08	17.40	12.85	- 21.00	37,610	
Zoologists and Wildlife Biologists							
19-1023	U.S.	20.87	20.12	14.96	- 25.65	43,400	
	Montana	19.87	19.19	16.25	- 22.69	41,340	
Conservation Scientists							
19-1031	U.S.	21.78	21.64	17.35	- 25.79	45,310	
	Montana	20.03	19.71	16.04	- 23.86	41,670	
Foresters							
19-1032	U.S.	20.34	19.73	15.54	- 24.61	42,300	
	Montana	21.30	20.04	17.24	- 24.79	44,300	
Atmospheric and Space Scientists							
19-2021	U.S.	25.76	25.60	17.69	- 33.13	53,580	
	Montana	26.55	27.64	23.90	- 31.20	55,220	
Chemists							
19-2031	U.S.	24.80	23.07	17.26	- 32.59	51,580	
	Montana	20.13	16.81	14.26	- 23.39	41,870	
Environmental Scientists and Specialists, Including Health							
19-2041	U.S.	22.60	20.99	16.30	- 27.18	47,000	
	Montana	24.37	18.61	15.08	- 37.25	50,700	
Geoscientists, Except Hydrologists and Geographers							
19-2042	U.S.	29.33	26.18	19.43	- 37.20	61,000	
	Montana	26.22	25.42	17.09	- 37.58	54,540	
Hydrologists							
19-2043	U.S.	26.26	25.53	19.95	- 31.78	54,620	
	Montana	21.55	16.85	14.88	- 26.71	44,830	
	Yellowstone County MSA	32.48	31.29	29.04	- 33.54	67,570	
	Missoula County MSA	17.12	15.62	14.56	- 16.68	35,620	
Market Research Analysts							
19-3021	U.S.	25.33	22.89	16.36	- 32.06	52,680	
	Montana	23.08	21.07	13.80	- 32.27	48,000	
	Yellowstone County MSA	17.50	16.36	14.91	- 19.24	36,390	
Survey Researchers							
19-3022	U.S.	10.84	8.36	7.32	- 12.47	22,540	
	Montana	8.38	7.95	7.35	- 8.78	17,430	

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1999 Montana Occupational Wage Survey

Occupational Title and Code	MSA or Area	Mean Wage	Median Wage	Middle Range	Annual Average
Clinical, Counseling and School Psychologists					
19-3031	U.S.	23.90	22.75	17.28 - 28.87	49,720
	Montana	18.75	17.54	15.04 - 21.41	39,000
Urban and Regional Planners					
19-3051	U.S.	22.44	21.41	16.73 - 27.00	46,670
	Montana	14.61	14.51	11.94 - 16.45	30,390
Anthropologists and Archeologists					
19-3091	U.S.	17.79	16.89	12.49 - 21.63	37,010
	Montana	18.42	17.04	13.63 - 23.16	38,320
Historians					
19-3093	U.S.	19.88	18.35	13.61 - 25.63	41,350
	Montana	15.61	15.40	14.45 - 16.35	32,470
Biological Technicians					
19-4021	U.S.	15.42	14.66	11.35 - 18.78	32,060
	Montana	13.66	12.49	9.95 - 16.58	28,410
Geological and Petroleum Technicians					
19-4041	U.S.	19.58	17.43	12.88 - 24.42	40,730
	Montana	18.47	17.30	14.50 - 20.62	38,430
	Yellowstone County MSA	20.62	19.48	17.24 - 22.98	42,900
Environmental Science and Protection Technicians, Including Health					
19-4091	U.S.	16.47	15.63	11.91 - 20.14	34,270
	Montana	11.31	10.09	9.28 - 13.56	23,520
Community and Social Services Occupations					
Substance Abuse and Behavioral Disorder Counselors					
21-1011	U.S.	13.73	12.82	10.42 - 15.96	28,560
	Montana	11.40	11.97	9.45 - 13.57	23,710
	Yellowstone County MSA	8.18	6.65	5.90 - 10.77	17,010
	Missoula County MSA	12.83	12.74	11.60 - 14.39	26,680
Educational, Vocational and School Counselors					
21-1012	U.S.	19.95	19.22	14.18 - 24.76	41,490
	Montana	14.64	14.61	10.96 - 18.49	30,460
	Yellowstone County MSA	18.64	18.88	15.59 - 22.58	38,780
	Cascade County MSA	18.80	19.45	17.29 - 21.40	39,100
	Missoula County MSA	12.80	13.18	9.13 - 16.00	26,620
Mental Health Counselors					
21-1014	U.S.	14.15	12.80	10.24 - 16.76	29,430
	Montana	10.92	11.35	9.29 - 12.57	22,720

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1999 Montana Occupational Wage Survey

Occupational Title and Code	MSA or Area	Mean Wage	Median Wage	Middle Range	Annual Average
Rehabilitation Counselors					
21-1015	U.S.	12.75	11.37	8.90 - 15.39	26,520
	Montana	9.75	9.22	6.53 - 12.56	20,270
	Cascade County MSA	14.11	14.84	13.60 - 16.08	29,340
	Missoula County MSA	10.66	11.77	6.74 - 12.79	22,180
Child, Family and School Social Workers					
21-1021	U.S.	15.25	14.42	11.54 - 18.22	31,720
	Montana	10.70	10.62	8.19 - 12.61	22,270
	Yellowstone County MSA	10.36	9.52	8.01 - 11.91	21,550
	Cascade County MSA	9.73	8.82	7.44 - 11.86	20,230
	Missoula County MSA	12.38	12.20	11.47 - 12.92	25,750
Medical and Public Health Social Workers					
21-1022	U.S.	17.02	16.16	12.94 - 20.22	35,400
	Montana	13.26	13.35	9.82 - 16.38	27,580
	Yellowstone County MSA	14.36	14.49	12.43 - 16.19	29,860
	Cascade County MSA	15.86	17.79	10.04 - 20.15	32,980
	Missoula County MSA	14.52	14.67	13.22 - 15.99	30,200
Mental Health and Substance Abuse Social Workers					
21-1023	U.S.	14.98	14.08	11.14 - 18.20	31,150
	Montana	11.19	11.02	9.46 - 12.88	23,280
Health Educators					
21-1091	U.S.	16.81	15.49	11.56 - 20.89	34,960
	Montana	13.22	12.73	9.83 - 16.69	27,490
Social and Human Service Assistants					
21-1093	U.S.	10.94	10.30	8.22 - 12.98	22,760
	Montana	8.68	8.38	6.67 - 10.57	18,060
	Yellowstone County MSA	7.63	6.85	5.97 - 9.32	15,880
	Cascade County MSA	9.52	8.78	7.68 - 11.15	19,800
	Missoula County MSA	10.03	9.75	8.99 - 10.50	20,870
Clergy					
21-2011	U.S.	15.48	14.50	9.59 - 19.51	32,210
	Montana	13.95	12.53	11.37 - 15.07	29,020
	Yellowstone County MSA	19.80	20.06	14.82 - 24.68	41,190
	Cascade County MSA	14.05	14.67	10.05 - 17.50	29,230
Directors, Religious Activities and Education					
21-2021	U.S.	13.73	12.77	9.17 - 16.85	28,550
	Montana	10.41	9.54	8.44 - 10.88	21,660
	Yellowstone County MSA	15.32	12.81	7.06 - 23.76	31,870
	Cascade County MSA	11.63	10.62	9.33 - 13.27	24,190

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1999 Montana Occupational Wage Survey

Occupational Title and Code	MSA or Area	Mean Wage	Median Wage	Middle Range	Annual Average
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Legal Occupations

Lawyers

23-1011	U.S.	43.44	42.81	29.53 - 60.16	90,360
	Montana	31.55	26.26	19.86 - 46.16	65,630
	Yellowstone County MSA	33.87	27.16	21.10 - 51.56	70,450
	Cascade County MSA	33.74	33.74	24.06 - 46.83	70,190
	Missoula County MSA	26.42	23.08	17.78 - 34.78	54,940

Administrative Law Judges, Adjudicators and Hearing Officers

23-1021	U.S.	24.80	21.23	17.65 - 30.67	51,580
	Montana	19.60	18.01	14.87 - 21.07	40,760

Judges, Magistrate Judges and Magistrates

23-1023	U.S.	32.29	32.72	13.95 - 50.06	67,150
	Montana	31.60	19.36	12.55 - 60.21	65,720

Paralegals and Legal Assistants

23-2011	U.S.	17.57	16.39	13.31 - 20.92	36,550
	Montana	13.04	13.18	10.08 - 15.47	27,130
	Yellowstone County MSA	12.73	13.54	9.74 - 15.46	26,480
	Cascade County MSA	12.98	12.65	11.51 - 14.24	26,990

Court Reporters

23-2091	U.S.	18.29	17.78	12.11 - 22.70	38,040
	Montana	14.01	14.87	13.52 - 16.23	29,150
	Yellowstone County MSA	12.80	14.67	6.75 - 15.83	26,620

Law Clerks

23-2092	U.S.	14.08	12.94	10.27 - 16.52	29,280
	Montana	12.75	12.78	10.80 - 15.32	26,510

Title Examiners, Abstractors and Searchers

23-2093	U.S.	14.84	13.38	10.53 - 17.65	30,880
	Montana	12.23	12.08	9.65 - 14.31	25,440

Education, Training and Library Occupations

Business Teachers, Postsecondary

25-1011	U.S.	annual wages only			53,800
	Montana	annual wages only			65,880

Computer Science Teachers, Postsecondary

25-1021	U.S.	annual wages only			49,420
	Montana	annual wages only			51,520

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1999 Montana Occupational Wage Survey

Occupational Title and Code	MSA or Area	Mean Wage	Median Wage	Middle Range	Annual Average
Mathematical Science Teachers, Postsecondary					
25-1022	U.S.		annual wages only		49,750
	Montana		annual wages only		52,900
Engineering Teachers, Postsecondary					
25-1032	U.S.		annual wages only		64,510
	Montana		annual wages only		51,940
Biological Science Teachers, Postsecondary					
25-1042	U.S.		annual wages only		54,930
	Montana		annual wages only		65,510
Chemistry Teachers, Postsecondary					
25-1052	U.S.		annual wages only		53,010
	Montana		annual wages only		65,280
Economics Teachers, Postsecondary					
25-1063	U.S.		annual wages only		58,730
	Montana		annual wages only		64,420
Political Science Teachers, Postsecondary					
25-1065	U.S.		annual wages only		53,920
	Montana		annual wages only		64,790
Psychology Teachers, Postsecondary					
25-1066	U.S.		annual wages only		53,170
	Montana		annual wages only		61,960
Sociology Teachers, Postsecondary					
25-1067	U.S.		annual wages only		50,090
	Montana		annual wages only		60,730
Health Specialties Teachers, Postsecondary					
25-1071	U.S.		annual wages only		66,470
	Montana		annual wages only		63,050
Nursing Instructors and Teachers, Postsecondary					
25-1072	U.S.		annual wages only		47,830
	Montana		annual wages only		43,400
Education Teachers, Postsecondary					
25-1081	U.S.		annual wages only		46,200
	Montana		annual wages only		51,200

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1999 Montana Occupational Wage Survey

Occupational Title and Code	MSA or Area	Mean Wage	Median Wage	Middle Range	Annual Average
Art, Drama and Music Teachers, Postsecondary					
25-1121	U.S.		annual wages only		46,700
	Montana		annual wages only		51,560
Communications Teachers, Postsecondary					
25-1122	U.S.		annual wages only		46,220
	Montana		annual wages only		58,010
English Language and Literature Teachers, Postsecondary					
25-1123	U.S.		annual wages only		46,260
	Montana		annual wages only		41,560
Foreign Language and Literature Teachers, Postsecondary					
25-1124	U.S.		annual wages only		46,930
	Montana		annual wages only		55,550
History Teachers, Postsecondary					
25-1125	U.S.		annual wages only		50,800
	Montana		annual wages only		55,870
Philosophy and Religion Teachers, Postsecondary					
25-1126	U.S.		annual wages only		48,700
	Montana		annual wages only		69,930
Vocational Education Teachers, Postsecondary					
25-1194	U.S.	18.10	17.04	12.92 - 21.41	37,650
	Montana	21.00	21.44	17.90 - 24.94	43,680
Preschool Teachers, Except Special Education					
25-2011	U.S.	9.43	8.41	6.78 - 10.84	19,610
	Montana	9.21	8.17	6.70 - 11.30	19,150
	Cascade County MSA	7.23	6.50	5.85 - 8.27	15,040
Kindergarten Teachers, Except Special Education					
25-2012	U.S.		annual wages only		36,770
	Montana		annual wages only		29,310
	Cascade County MSA		annual wages only		29,930
	Missoula County MSA		annual wages only		34,860
Elementary School Teachers, Except Special Education					
25-2021	U.S.		annual wages only		39,560
	Montana		annual wages only		32,590
	Yellowstone County MSA		annual wages only		33,330
	Cascade County MSA		annual wages only		33,040
	Missoula County MSA		annual wages only		36,860

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1999 Montana Occupational Wage Survey

Occupational Title and Code	MSA or Area	Mean Wage	Median Wage	Middle Range	Annual Average
Middle School Teachers, Except Special and Vocational Education					
25-2022	U.S.		annual wages only		39,690
	Montana		annual wages only		22,580
	Yellowstone County MSA		annual wages only		32,850
Secondary School Teachers, Except Special and Vocational Education					
25-2031	U.S.		annual wages only		41,430
	Montana		annual wages only		31,000
	Yellowstone County MSA		annual wages only		30,880
Vocational Education Teachers, Secondary School					
25-2032	U.S.		annual wages only		41,710
	Montana		annual wages only		30,730
Special Education Teachers, Preschool, Kindergarten and Elementary School					
25-2041	U.S.		annual wages only		40,400
	Montana		annual wages only		29,560
Special Education Teachers, Middle School					
25-2042	U.S.		annual wages only		38,600
	Montana		annual wages only		31,460
Special Education Teachers, Secondary School					
25-2043	U.S.		annual wages only		42,070
	Montana		annual wages only		31,960
	Yellowstone County MSA		annual wages only		30,770
	Cascade County MSA		annual wages only		32,640
Adult Literacy, Remedial Education, and GED Teachers and Instructors					
25-3011	U.S.	15.77	14.92	10.96 - 19.24	32,800
	Montana	9.35	7.88	7.32 - 8.45	19,450
Self-Enrichment Education Teachers					
25-3021	U.S.	14.37	12.54	8.93 - 18.03	29,900
	Montana	11.95	10.75	8.52 - 14.86	24,850
	Cascade County MSA	12.32	12.03	7.76 - 17.18	25,620
Archivists, Curators and Museum Technicians					
25-4010	U.S.	16.42	14.79	11.09 - 20.16	34,160
	Montana	12.83	12.83	9.86 - 15.49	26,680
Librarians					
25-4021	U.S.	19.84	19.19	15.14 - 23.94	41,270
	Montana	16.44	15.73	12.68 - 19.46	34,200
	Yellowstone County MSA	17.24	17.53	14.43 - 19.95	35,850
	Missoula County MSA	21.74	16.85	14.93 - 31.99	45,230

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1999 Montana Occupational Wage Survey

Occupational Title and Code	MSA or Area	Mean Wage	Median Wage	Middle Range	Annual Average
Library Technicians					
25-4031	U.S.	11.28	10.84	8.29 - 13.73	23,450
	Montana	8.53	8.14	7.16 - 9.73	17,740
Farm and Home Management Advisors					
25-9021	U.S.	18.74	17.24	12.87 - 23.24	38,980
	Montana	16.96	15.70	11.69 - 21.74	35,270
Instructional Coordinators					
25-9031	U.S.	21.06	20.06	14.33 - 26.64	43,800
	Montana	12.64	14.28	6.32 - 17.15	26,280
	Missoula County MSA	16.94	17.02	13.81 - 19.76	35,230
Teacher Assistants					
25-9041	U.S.		annual wages only		17,400
	Montana		annual wages only		16,070
	Cascade County MSA		annual wages only		14,950
	Missoula County MSA		annual wages only		16,360

Arts, Design, Entertainment, Sports and Media Occupations

Floral Designers					
27-1023	U.S.	9.12	8.66	7.15 - 10.47	18,980
	Montana	7.48	7.41	6.16 - 9.04	15,570
	Cascade County MSA	6.28	6.06	5.61 - 6.52	13,070
	Missoula County MSA	7.16	6.88	5.99 - 8.48	14,900
Graphic Designers					
27-1024	U.S.	17.41	15.95	12.22 - 20.86	36,210
	Montana	13.56	12.72	10.67 - 15.53	28,190
	Yellowstone County MSA	11.79	10.34	9.33 - 13.53	24,520
	Cascade County MSA	11.74	11.23	9.63 - 13.38	24,420
	Missoula County MSA	14.22	13.19	11.97 - 16.31	29,570
Interior Designers					
27-1025	U.S.	18.44	16.03	11.81 - 21.64	38,360
	Montana	14.78	15.15	10.53 - 16.73	30,730
Merchandise Displayers and Window Trimmers					
27-1026	U.S.	10.37	9.36	7.61 - 11.75	21,560
	Montana	8.66	7.87	6.42 - 9.80	18,020
Set and Exhibit Designers					
27-1027	U.S.	14.57	13.62	9.31 - 17.85	30,310
	Montana	9.50	9.04	7.84 - 10.42	19,770

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1999 Montana Occupational Wage Survey

Occupational Title and Code	MSA or Area	Mean Wage	Median Wage	Middle Range	Annual Average
Producers and Directors					
27-2012	U.S.		annual wages only		47,230
	Montana		annual wages only		38,600
	Cascade County MSA		annual wages only		39,250
	Missoula County MSA		annual wages only		35,420
Coaches and Scouts					
27-2022	U.S.		annual wages only		32,010
	Montana		annual wages only		34,970
Umpires, Referees and Other Sports Officials					
27-2023	U.S.		annual wages only		23,510
	Montana		annual wages only		12,140
Musicians and Singers					
27-2042	U.S.		annual wages only		37,510
	Montana		annual wages only		39,850
Announcers					
27-3010	U.S.	12.33	8.95	6.51 - 13.27	25,640
	Montana	9.13	7.51	6.12 - 10.85	18,990
	Missoula County MSA	10.12	8.41	6.70 - 12.15	21,050
News Analysts, Reporters and Correspondents					
27-3020	U.S.	16.96	13.37	9.69 - 20.40	35,270
	Montana	13.19	11.76	9.01 - 17.45	27,440
	Yellowstone County MSA	13.27	13.21	9.51 - 16.27	27,600
Public Relations Specialists					
27-3031	U.S.	19.61	17.63	13.40 - 23.58	40,780
	Montana	14.95	13.21	11.74 - 16.39	31,090
	Missoula County MSA	16.07	14.80	12.98 - 19.01	33,420
Editors					
27-3041	U.S.	20.20	18.01	13.22 - 24.58	42,030
	Montana	14.38	13.47	11.22 - 16.49	29,900
	Yellowstone County MSA	20.58	20.06	17.94 - 23.32	42,810
Technical Writers					
27-3042	U.S.	22.57	21.32	17.00 - 26.62	46,940
	Montana	18.32	17.48	14.20 - 21.07	38,110
Writers and Authors					
27-3043	U.S.	21.88	19.62	13.69 - 26.15	45,500
	Montana	13.36	13.02	11.10 - 15.42	27,780
	Missoula County MSA	13.87	14.04	12.43 - 15.52	28,840

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1999 Montana Occupational Wage Survey

Occupational Title and Code	MSA or Area	Mean Wage	Median Wage	Middle Range	Annual Average
Audio and Video Equipment Technicians					
27-4011	U.S.	16.36	13.51	10.31 - 19.69	34,020
	Montana	9.14	9.16	7.51 - 10.51	19,010
Broadcast Technicians					
27-4012	U.S.	13.33	11.33	7.79 - 16.78	27,740
	Montana	10.05	9.62	8.79 - 10.45	20,900
Photographers					
27-4021	U.S.	12.36	10.01	7.57 - 14.63	25,710
	Montana	9.73	8.25	6.97 - 11.52	20,250
	Yellowstone County MSA	9.11	7.86	6.36 - 11.79	18,950
	Missoula County MSA	11.24	10.87	8.16 - 14.42	23,380
Camera Operators, Television, Video and Motion Picture					
27-4031	U.S.	15.26	11.94	8.23 - 19.92	31,730
	Montana	8.27	6.37	5.82 - 9.49	17,200
Film and Video Editors					
27-4032	U.S.	21.34	18.84	12.05 - 29.63	44,380
	Montana	20.02	17.61	10.69 - 28.47	41,630
	Yellowstone County MSA	18.25	12.16	10.16 - 27.93	37,950
Health Care Practitioners and Technical Occupations					
Dietitians and Nutritionists					
29-1031	U.S.	17.96	17.54	14.18 - 21.21	37,350
	Montana	17.72	17.24	14.52 - 19.98	36,850
Pharmacists					
29-1051	U.S.	30.31	32.16	26.99 - 38.37	63,030
	Montana	27.38	28.71	23.49 - 33.45	56,950
	Yellowstone County MSA	29.85	31.29	28.10 - 34.48	62,080
	Cascade County MSA	27.31	28.30	23.38 - 33.65	56,800
	Missoula County MSA	21.70	22.70	12.91 - 29.33	45,130
Family and General Practitioners					
29-1062	U.S.	50.04	54.34	38.79 - #	104,090
	Montana	52.03	52.79	46.83 - 62.38	108,220
Internists, General					
29-1063	U.S.	59.27	#	52.95 - #	123,280
	Montana	55.86	58.75	52.01 - 64.38	116,200
Pediatricians, General					
29-1065	U.S.	54.21	58.65	46.03 - #	112,760
	Montana	49.28	50.16	46.96 - 53.37	102,490

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1999 Montana Occupational Wage Survey

Occupational Title and Code	MSA or Area	Mean Wage	Median Wage	Middle Range	Annual Average
Surgeons					
29-1067	U.S.		annual wages only		135,660
	Montana		annual wages only		141,110
Physician Assistants					
29-1071	U.S.	24.35	25.54	14.07 - 34.18	50,650
	Montana	28.02	26.97	23.41 - 34.49	58,280
Registered Nurses					
29-1111	U.S.	21.38	20.33	17.17 - 24.55	44,470
	Montana	17.61	17.28	14.99 - 19.77	36,640
	Yellowstone County MSA	16.68	15.84	14.75 - 18.03	34,690
	Cascade County MSA	18.53	18.63	16.41 - 20.67	38,550
	Missoula County MSA	18.93	18.84	16.53 - 21.24	39,380
Occupational Therapists					
29-1122	U.S.	24.96	23.73	19.38 - 31.36	51,910
	Montana	23.14	22.26	18.85 - 25.89	48,130
	Missoula County MSA	22.21	22.59	21.01 - 24.20	46,190
Physical Therapists					
29-1123	U.S.	28.05	27.08	22.00 - 36.17	58,350
	Montana	24.70	23.85	20.92 - 28.58	51,370
	Cascade County MSA	27.04	25.77	22.69 - 32.77	56,240
	Missoula County MSA	21.83	22.35	20.68 - 24.10	45,420
Radiation Therapists					
29-1124	U.S.	20.84	20.04	16.81 - 24.18	43,360
	Montana	21.65	21.31	19.24 - 23.89	45,040
Recreational Therapists					
29-1125	U.S.	14.08	13.47	10.32 - 16.98	29,280
	Montana	11.66	10.46	8.29 - 14.51	24,260
Respiratory Therapists					
29-1126	U.S.	17.72	17.38	14.91 - 19.84	36,860
	Montana	14.15	13.74	12.30 - 15.70	29,420
Speech-Language Pathologists					
29-1127	U.S.	22.99	22.03	17.70 - 26.86	47,820
	Montana	20.09	19.51	17.60 - 21.42	41,790
Veterinarians					
29-1131	U.S.	31.76	28.19	22.20 - 38.31	66,060
	Montana	23.31	21.23	19.12 - 28.01	48,480
	Yellowstone County MSA	23.06	21.80	19.33 - 26.41	47,960

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1999 Montana Occupational Wage Survey

Occupational Title and Code	MSA or Area	Mean Wage	Median Wage	Middle Range	Annual Average
Medical and Clinical Laboratory Technologists					
29-2011	U.S.	18.90	18.52	15.59 - 21.59	39,310
	Montana	18.13	17.48	15.13 - 20.60	37,710
	Cascade County MSA	18.57	18.20	15.64 - 21.23	38,630
	Missoula County MSA	19.34	18.84	15.92 - 21.42	40,230
Medical and Clinical Laboratory Technicians					
29-2012	U.S.	13.67	12.89	10.32 - 16.06	28,430
	Montana	12.56	12.27	10.76 - 14.05	26,110
	Missoula County MSA	11.58	11.07	10.03 - 11.90	24,090
Dental Hygienists					
29-2021	U.S.	23.15	22.69	17.73 - 30.56	48,150
	Montana	26.64	25.50	22.68 - 34.41	55,410
	Cascade County MSA	24.46	23.87	22.17 - 25.58	50,870
	Missoula County MSA	25.88	24.63	22.39 - 31.96	53,820
Cardiovascular Technologists and Technicians					
29-2031	U.S.	16.00	15.46	11.51 - 19.42	33,280
	Montana	16.41	16.26	12.57 - 19.86	34,140
	Cascade County MSA	16.78	17.02	12.75 - 20.18	34,900
Diagnostic Medical Sonographers					
29-2032	U.S.	21.04	20.35	17.68 - 24.15	43,760
	Montana	19.52	19.38	18.19 - 20.57	40,600
Nuclear Medicine Technologists					
29-2033	U.S.	20.40	19.66	17.35 - 23.08	42,430
	Montana	19.48	19.27	17.37 - 21.43	40,520
Radiologic Technologists and Technicians					
29-2034	U.S.	17.07	16.47	13.95 - 19.91	35,510
	Montana	14.58	14.16	12.01 - 16.62	30,330
	Cascade County MSA	14.99	14.89	12.72 - 16.83	31,180
	Missoula County MSA	13.25	12.74	11.31 - 15.13	27,560
Emergency Medical Technicians and Paramedics					
29-2041	U.S.	11.19	10.21	8.01 - 13.18	23,280
	Montana	9.52	8.81	7.36 - 10.91	19,810
Dietetic Technicians					
29-2051	U.S.	10.09	9.39	7.23 - 12.40	21,000
	Montana	9.87	10.11	8.34 - 11.10	20,530
	Missoula County MSA	10.08	9.33	7.86 - 11.46	20,970

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1999 Montana Occupational Wage Survey

Occupational Title and Code	MSA or Area	Mean Wage	Median Wage	Middle Range	Annual Average
Pharmacy Technicians					
29-2052	U.S.	9.64	9.11	7.54 - 11.29	20,050
	Montana	9.61	9.48	7.89 - 11.40	19,990
	Yellowstone County MSA	9.85	9.08	7.81 - 11.79	20,490
	Missoula County MSA	8.32	8.06	7.28 - 9.44	17,310
Respiratory Therapy Technicians					
29-2054	U.S.	16.07	15.14	12.55 - 18.30	33,430
	Montana	14.36	14.77	12.80 - 16.23	29,880
Surgical Technologists					
29-2055	U.S.	13.25	12.84	11.01 - 15.21	27,560
	Montana	12.02	11.99	10.74 - 13.37	25,000
	Cascade County MSA	11.51	11.55	10.34 - 12.89	23,950
	Missoula County MSA	12.62	12.82	11.64 - 13.78	26,260
Veterinary Technologists and Technicians					
29-2056	U.S.	10.30	9.89	8.12 - 12.12	21,430
	Montana	9.25	8.61	7.67 - 9.76	19,250
Licensed Practical and Licensed Vocational Nurses					
29-2061	U.S.	13.95	13.39	11.46 - 15.91	29,020
	Montana	11.19	11.15	10.09 - 12.39	23,280
	Yellowstone County MSA	11.52	11.22	10.50 - 12.55	23,960
	Cascade County MSA	11.56	11.62	10.61 - 12.73	24,050
	Missoula County MSA	11.54	11.33	10.16 - 12.91	24,000
Medical Records and Health Information Technicians					
29-2071	U.S.	11.13	10.37	8.47 - 13.14	23,150
	Montana	10.02	9.09	7.43 - 12.27	20,830
	Cascade County MSA	8.81	8.28	6.65 - 10.13	18,310
	Missoula County MSA	11.35	10.18	7.77 - 14.97	23,610
Opticians, Dispensing					
29-2081	U.S.	12.11	11.10	8.80 - 14.13	25,190
	Montana	11.37	11.45	9.42 - 12.88	23,650
	Yellowstone County MSA	12.50	11.54	10.20 - 15.57	25,990
	Cascade County MSA	9.43	9.65	7.98 - 11.08	19,620
	Missoula County MSA	11.62	12.02	11.03 - 13.00	24,160
Occupational Health and Safety Specialists and Technicians					
29-9010	U.S.	19.99	18.94	14.49 - 24.79	41,590
	Montana	18.90	16.56	12.68 - 24.59	39,300
	Yellowstone County MSA	16.53	12.94	11.84 - 23.06	34,370

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1999 Montana Occupational Wage Survey

Occupational Title and Code	MSA or Area	Mean Wage	Median Wage	Middle Range	Annual Average
Athletic Trainers					
29-9091	U.S.		annual wages only		33,650
	Montana		annual wages only		28,620
	Cascade County MSA		annual wages only		28,720
Health Care Support Occupations					
Home Health Aides					
31-1011	U.S.	9.04	8.21	7.02 - 10.05	18,810
	Montana	7.59	7.60	6.74 - 8.41	15,780
	Yellowstone County MSA	7.00	7.13	6.18 - 7.99	14,560
	Missoula County MSA	7.80	7.73	7.14 - 8.31	16,230
Nursing Aides, Orderlies and Attendants					
31-1012	U.S.	8.59	8.29	7.05 - 9.93	17,860
	Montana	7.75	7.71	6.78 - 8.71	16,120
	Yellowstone County MSA	8.13	8.10	7.33 - 9.02	16,900
	Cascade County MSA	7.64	7.56	6.56 - 8.82	15,900
	Missoula County MSA	7.85	7.80	6.98 - 8.78	16,320
Psychiatric Aides					
31-1013	U.S.	10.76	10.32	8.18 - 13.18	22,390
	Montana	10.72	10.15	8.25 - 13.38	22,300
Physical Therapist Assistants					
31-2021	U.S.	16.20	15.90	13.66 - 19.06	33,690
	Montana	11.70	12.09	11.01 - 13.17	24,340
Physical Therapist Aides					
31-2022	U.S.	9.69	9.05	7.57 - 10.68	20,160
	Montana	7.35	7.30	6.18 - 8.57	15,290
Dental Assistants					
31-9091	U.S.	11.60	11.24	9.25 - 13.51	24,130
	Montana	10.57	9.98	9.24 - 11.76	21,980
	Cascade County MSA	10.40	10.10	9.57 - 10.63	21,640
Medical Assistants					
31-9092	U.S.	10.89	10.48	8.93 - 12.68	22,650
	Montana	10.39	9.93	8.69 - 11.68	21,610
	Yellowstone County MSA	9.97	9.89	8.84 - 11.19	20,730
	Missoula County MSA	10.89	11.16	9.73 - 12.37	22,640
Medical Equipment Preparers					
31-9093	U.S.	10.20	9.70	8.08 - 11.81	21,220
	Montana	8.58	8.50	7.51 - 9.70	17,850

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Occupational Title and Code	MSA or Area	Mean Wage	Median Wage	Middle Range	Annual Average
Medical Transcriptionists					
31-9094	U.S.	11.86	11.67	9.70 - 13.54	24,660
	Montana	10.01	9.99	8.83 - 11.46	20,810
	Cascade County MSA	10.93	11.21	9.68 - 12.43	22,720
Pharmacy Aides					
31-9095	U.S.	9.14	8.76	7.06 - 10.81	19,010
	Montana	8.93	8.63	7.30 - 10.35	18,580
Veterinary Assistants and Laboratory Animal Caretakers					
31-9096	U.S.	8.03	7.60	6.42 - 9.19	16,710
	Montana	6.25	6.18	5.66 - 6.69	12,990
Protective Service Occupations					
First-Line Supervisors/Managers of Police and Detectives					
33-1012	U.S.	26.01	25.31	19.36 - 33.07	54,100
	Montana	20.06	18.73	15.95 - 23.14	41,730
First-Line Supervisors/Managers of Fire Fighting and Prevention Workers					
33-1021	U.S.	23.60	23.24	17.93 - 29.59	49,100
	Montana	15.49	15.49	8.24 - 20.26	32,210
Firefighters					
33-2011	U.S.	16.38	15.80	11.39 - 20.67	34,070
	Montana	15.34	15.50	12.96 - 17.67	31,910
Fire Inspectors and Investigators					
33-2021	U.S.	19.98	19.26	14.61 - 24.78	41,550
	Montana	15.51	15.36	13.96 - 16.81	32,270
Bailiffs					
33-3011	U.S.	14.40	14.13	9.97 - 18.68	29,950
	Montana	7.75	6.59	5.87 - 9.83	16,110
Correctional Officers and Jailers					
33-3012	U.S.	14.94	13.66	11.35 - 18.20	31,070
	Montana	10.39	10.25	8.77 - 11.94	21,620
Detectives and Criminal Investigators					
33-3021	U.S.	22.90	22.09	17.01 - 28.84	47,620
	Montana	20.52	19.38	16.98 - 23.58	42,670
	Missoula County MSA	20.66	19.56	18.01 - 21.11	42,980
Police and Sheriff's Patrol Officers					
33-3051	U.S.	18.61	18.06	13.76 - 22.92	38,710
	Montana	14.37	13.95	11.74 - 16.66	29,890

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1999 Montana Occupational Wage Survey

Occupational Title and Code	MSA or Area	Mean Wage	Median Wage	Middle Range	Annual Average
Animal Control Workers					
33-9011	U.S.	11.47	10.62	8.50 - 13.58	23,850
	Montana	8.52	7.44	6.16 - 10.83	17,730
Security Guards					
33-9032	U.S.	8.95	8.07	6.75 - 10.11	18,610
	Montana	7.90	7.24	6.20 - 8.59	16,430
	Yellowstone County MSA	7.17	6.80	5.96 - 8.05	14,910
	Cascade County MSA	7.45	6.72	6.03 - 7.94	15,490
	Missoula County MSA	9.89	8.77	7.02 - 11.23	20,560
Crossing Guards					
33-9091	U.S.	8.59	7.70	6.17 - 10.18	17,870
	Montana	8.38	7.37	6.28 - 8.58	17,430
Food Preparation and Serving Related Occupations					
Chefs and Head Cooks					
35-1011	U.S.	13.48	11.88	9.10 - 16.13	28,040
	Montana	12.57	10.65	9.27 - 15.35	26,130
	Yellowstone County MSA	11.14	11.57	8.20 - 14.02	23,170
First-Line Supervisors/Managers of Food Preparation and Serving Workers					
35-1012	U.S.	11.47	10.59	8.29 - 13.72	23,860
	Montana	9.12	9.05	7.69 - 10.29	18,970
	Yellowstone County MSA	8.82	8.91	7.79 - 9.97	18,350
	Cascade County MSA	8.30	8.31	7.27 - 9.58	17,260
	Missoula County MSA	10.10	8.33	7.54 - 12.67	21,010
Cooks, Fast Food					
35-2011	U.S.	6.54	6.24	5.84 - 7.13	13,610
	Montana	5.93	5.97	5.68 - 6.44	12,340
	Yellowstone County MSA	5.88	6.04	5.62 - 6.47	12,220
	Cascade County MSA	6.11	6.02	5.67 - 6.59	12,710
Cooks, Institution and Cafeteria					
35-2012	U.S.	8.38	7.89	6.46 - 9.75	17,420
	Montana	8.06	7.83	6.76 - 9.07	16,770
	Yellowstone County MSA	7.82	7.73	6.96 - 8.51	16,270
	Cascade County MSA	8.35	8.22	6.87 - 9.74	17,370
	Missoula County MSA	8.00	7.90	7.09 - 9.02	16,630

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1999 Montana Occupational Wage Survey

Occupational Title and Code	MSA or Area	Mean Wage	Median Wage	Middle Range		Annual Average
Cooks, Restaurant 35-2014	U.S.	8.52	8.05	6.65	- 9.81	17,730
	Montana	7.41	7.26	6.35	- 8.28	15,400
	Yellowstone County MSA	7.60	7.56	6.59	- 8.47	15,810
	Cascade County MSA	6.95	6.78	6.11	- 7.98	14,460
	Missoula County MSA	7.40	7.41	6.56	- 8.23	15,400
Cooks, Short Order 35-2015	U.S.	7.48	7.14	6.10	- 8.50	15,560
	Montana	6.59	6.49	5.87	- 7.49	13,710
	Yellowstone County MSA	7.28	7.35	6.58	- 8.09	15,130
	Cascade County MSA	6.44	6.47	5.88	- 7.20	13,390
Food Preparation Workers 35-2021	U.S.	7.57	7.23	6.18	- 8.45	15,740
	Montana	6.61	6.46	5.80	- 7.52	13,740
	Yellowstone County MSA	6.29	6.21	5.68	- 6.73	13,090
	Cascade County MSA	6.74	6.55	5.85	- 7.75	14,010
	Missoula County MSA	6.30	6.30	5.72	- 7.07	13,110
Bartenders 35-3011	U.S.	7.07	6.52	5.90	- 7.91	14,700
	Montana	6.51	6.41	5.85	- 7.32	13,540
	Yellowstone County MSA	6.66	6.21	5.81	- 7.68	13,850
	Cascade County MSA	6.77	6.71	6.00	- 7.72	14,080
	Missoula County MSA	6.90	6.90	6.16	- 7.88	14,350
Combined Food Preparation and Serving Workers, Including Fast Food 35-3021	U.S.	6.64	6.30	5.85	- 7.23	13,810
	Montana	6.14	6.02	5.72	- 6.62	12,770
	Yellowstone County MSA	5.96	6.04	5.69	- 6.53	12,400
	Cascade County MSA	5.92	5.98	5.66	- 6.43	12,320
	Missoula County MSA	6.08	5.98	5.71	- 6.53	12,640
Counter Attendants, Cafeteria, Food Concession and Coffee Shop 35-3022	U.S.	6.83	6.46	5.89	- 7.66	14,210
	Montana	6.33	6.06	5.74	- 6.84	13,170
	Yellowstone County MSA	6.10	5.96	5.68	- 6.48	12,680
	Cascade County MSA	6.42	6.37	5.81	- 6.95	13,360
	Missoula County MSA	6.08	5.90	5.67	- 6.12	12,640
Waiters and Waitresses 35-3031	U.S.	6.46	6.07	5.77	- 6.69	13,430
	Montana	5.93	5.96	5.68	- 6.42	12,330
	Yellowstone County MSA	5.96	5.96	5.67	- 6.42	12,390
	Cascade County MSA	6.16	6.09	5.74	- 6.68	12,820
	Missoula County MSA	5.89	5.94	5.65	- 6.35	12,240

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1999 Montana Occupational Wage Survey

Occupational Title and Code	MSA or Area	Mean Wage	Median Wage			Middle Range	Annual Average
Food Servers, Nonrestaurant							
35-3041	U.S.	7.77	7.09	6.07	-	8.82	16,170
	Montana	6.27	6.13	5.68	-	6.70	13,030
Dining Room and Cafeteria Attendants and Bartender Helpers							
35-9011	U.S.	6.70	6.33	5.87	-	7.36	13,940
	Montana	5.89	5.93	5.67	-	6.31	12,260
	Yellowstone County MSA	5.91	5.94	5.67	-	6.36	12,300
	Cascade County MSA	5.78	5.93	5.66	-	6.30	12,010
	Missoula County MSA	5.77	5.93	5.67	-	6.31	11,990
Dishwashers							
35-9021	U.S.	6.78	6.57	5.93	-	7.65	14,090
	Montana	5.92	6.03	5.59	-	6.46	12,320
	Yellowstone County MSA	5.82	5.98	5.57	-	6.40	12,100
	Cascade County MSA	5.75	5.95	5.55	-	6.35	11,960
	Missoula County MSA	5.75	5.95	5.55	-	6.35	11,960
Hosts and Hostesses, Restaurant, Lounge and Coffee Shop							
35-9031	U.S.	7.13	6.73	6.01	-	8.03	14,840
	Montana	6.09	5.98	5.69	-	6.53	12,680
	Yellowstone County MSA	5.99	5.97	5.66	-	6.47	12,460
Building and Grounds Cleaning and Maintenance Occupations							
First-Line Supervisors/Managers of Housekeeping and Janitorial Workers							
37-1011	U.S.	11.67	10.61	8.25	-	13.95	24,270
	Montana	9.97	8.97	7.56	-	11.41	20,740
	Yellowstone County MSA	9.73	8.71	7.27	-	10.12	20,240
	Cascade County MSA	10.22	8.29	6.57	-	13.71	21,260
	Missoula County MSA	10.11	9.75	8.25	-	12.23	21,030
First-Line Supervisors/Managers of Landscaping, Lawn Service and Groundskeeping Workers							
37-1012	U.S.	15.87	14.31	11.04	-	19.18	33,000
	Montana	13.76	12.73	11.15	-	15.36	28,620
Janitors and Cleaners, Except Maids and Housekeeping Cleaners							
37-2011	U.S.	8.76	7.90	6.41	-	10.24	18,220
	Montana	7.81	7.31	6.12	-	8.95	16,240
	Yellowstone County MSA	7.54	6.56	5.86	-	8.57	15,680
	Cascade County MSA	7.47	6.90	5.96	-	8.61	15,530
	Missoula County MSA	7.73	7.54	6.56	-	8.50	16,080

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1999 Montana Occupational Wage Survey

Occupational Title and Code	MSA or Area	Mean Wage	Median Wage	Middle Range	Annual Average
Maids and Housekeeping Cleaners					
37-2012	U.S.	7.46	7.03	6.08 - 8.41	15,530
	Montana	6.45	6.26	5.79 - 7.06	13,410
	Yellowstone County MSA	6.84	6.75	6.02 - 7.81	14,230
	Cascade County MSA	6.46	6.30	5.78 - 6.92	13,440
	Missoula County MSA	6.52	6.39	5.84 - 7.04	13,560
Pest Control Workers					
37-2021	U.S.	11.60	11.16	9.17 - 13.53	24,120
	Montana	10.14	8.34	6.26 - 14.43	21,100
Landscaping and Groundskeeping Workers					
37-3011	U.S.	9.32	8.48	7.09 - 10.64	19,380
	Montana	8.44	7.65	6.29 - 10.14	17,560
	Yellowstone County MSA	10.25	8.97	7.00 - 12.43	21,310
	Cascade County MSA	9.66	10.82	6.45 - 12.27	20,090
	Missoula County MSA	7.84	7.81	6.86 - 9.00	16,310
Pesticide Handlers, Sprayers and Applicators, Vegetation					
37-3012	U.S.	11.29	10.81	8.90 - 13.02	23,490
	Montana	9.21	8.26	6.76 - 11.46	19,160
Personal Care and Service Occupations					
Gaming Supervisors					
39-1011	U.S.	16.96	16.46	12.62 - 20.96	35,270
	Montana	9.51	9.63	9.06 - 10.19	19,780
First-Line Supervisors/Managers of Personal Service Workers					
39-1021	U.S.	14.02	12.47	9.59 - 16.75	29,150
	Montana	9.80	6.57	5.86 - 14.30	20,390
	Cascade County MSA	6.54	6.04	5.60 - 6.48	13,600
Nonfarm Animal Caretakers					
39-2021	U.S.	8.25	7.50	6.32 - 9.37	17,160
	Montana	7.06	6.42	5.78 - 7.90	14,690
	Yellowstone County MSA	8.02	8.11	7.08 - 9.36	16,690
Motion Picture Projectionists					
39-3021	U.S.	10.28	7.33	6.10 - 11.58	21,390
	Montana	6.40	6.06	5.75 - 6.86	13,320
Ushers, Lobby Attendants and Ticket Takers					
39-3031	U.S.	6.76	6.26	5.83 - 6.93	14,050
	Montana	6.40	5.97	5.68 - 6.49	13,300
	Cascade County MSA	5.72	5.85	5.63 - 6.07	11,890

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1999 Montana Occupational Wage Survey

Occupational Title and Code	MSA or Area	Mean Wage	Median Wage	Middle Range		Annual Average
Amusement and Recreation Attendants						
39-3091	U.S.	7.17	6.55	5.90	- 7.92	14,920
	Montana	6.33	6.27	5.71	- 6.98	13,160
Funeral Attendants						
39-4021	U.S.	8.33	7.70	6.13	- 9.67	17,320
	Montana	8.44	7.93	6.43	- 10.83	17,550
Barbers						
39-5011	U.S.	10.08	8.91	6.69	- 12.27	20,970
	Montana	9.18	9.61	6.36	- 11.46	19,100
	Cascade County MSA	9.86	10.10	6.59	- 11.70	20,510
Hairdressers, Hairstylists and Cosmetologists						
39-5012	U.S.	10.00	8.33	6.61	- 11.43	20,800
	Montana	8.45	7.48	6.16	- 10.49	17,570
	Yellowstone County MSA	10.49	11.70	6.25	- 13.44	21,810
Baggage Porters and Bellhops						
39-6011	U.S.	8.23	6.84	6.02	- 8.99	17,110
	Montana	10.26	8.06	6.10	- 14.90	21,350
	Yellowstone County MSA	6.08	5.88	5.68	- 6.09	12,640
Tour Guides and Escorts						
39-6021	U.S.	9.66	8.46	6.61	- 11.49	20,100
	Montana	5.97	6.03	5.59	- 6.47	12,420
Travel Guides						
39-6022	U.S.	13.07	12.00	9.04	- 15.84	27,190
	Montana	17.22	18.36	16.15	- 19.93	35,830
Child Care Workers						
39-9011	U.S.	7.42	6.91	6.03	- 8.39	15,430
	Montana	6.34	6.16	5.75	- 6.87	13,180
	Yellowstone County MSA	6.00	5.96	5.68	- 6.46	12,480
	Cascade County MSA	6.44	6.29	5.77	- 7.02	13,390
	Missoula County MSA	6.60	6.31	5.81	- 7.40	13,730
Personal and Home Care Aides						
39-9021	U.S.	7.72	7.50	6.45	- 8.51	16,060
	Montana	6.37	6.39	5.84	- 6.96	13,260
	Yellowstone County MSA	7.03	7.14	6.36	- 7.92	14,620
	Cascade County MSA	6.12	6.12	5.66	- 6.57	12,720
	Missoula County MSA	6.44	6.54	5.89	- 7.29	13,400

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1999 Montana Occupational Wage Survey

Occupational Title and Code	MSA or Area	Mean Wage	Median Wage	Middle Range	Annual Average
Fitness Trainers and Aerobics Instructors					
39-9031	U.S.	13.12	10.84	7.67 - 16.79	27,300
	Montana	8.43	8.90	6.46 - 9.94	17,530
	Yellowstone County MSA	8.07	7.60	6.31 - 9.34	16,790
Recreation Workers					
39-9032	U.S.	8.89	7.90	6.49 - 10.23	18,500
	Montana	7.97	7.43	6.37 - 8.43	16,580
	Yellowstone County MSA	6.64	6.34	5.74 - 7.53	13,800
	Missoula County MSA	10.33	9.94	7.26 - 12.72	21,490
Residential Advisors					
39-9041	U.S.	9.90	9.21	7.46 - 11.75	20,590
	Montana	8.61	8.07	6.21 - 9.85	17,900
	Missoula County MSA	8.60	9.01	7.73 - 9.88	17,880
Sales and Related Occupations					
First-Line Supervisors/Managers of Retail Sales Workers					
41-1011	U.S.	15.11	12.91	9.84 - 17.27	31,430
	Montana	13.27	10.56	8.62 - 14.96	27,590
	Yellowstone County MSA	17.07	11.90	9.12 - 23.18	35,510
	Cascade County MSA	15.07	12.12	9.91 - 18.86	31,340
	Missoula County MSA	13.16	11.02	8.95 - 15.34	27,380
First-Line Supervisors/Managers of Non-Retail Sales Workers					
41-1012	U.S.	25.66	21.57	14.78 - 32.70	53,380
	Montana	21.59	19.05	12.29 - 28.38	44,910
	Yellowstone County MSA	19.85	16.40	11.22 - 29.81	41,280
	Missoula County MSA	25.60	20.89	17.75 - 30.75	53,240
Cashiers					
41-2011	U.S.	7.35	6.68	6.00 - 8.16	15,290
	Montana	7.07	6.41	5.90 - 7.95	14,700
	Yellowstone County MSA	7.17	6.36	5.87 - 8.02	14,920
	Cascade County MSA	7.07	6.32	5.88 - 7.98	14,710
	Missoula County MSA	7.01	6.23	5.88 - 7.75	14,580
Gaming Change Persons and Booth Cashiers					
41-2012	U.S.	8.88	8.60	7.10 - 10.14	18,470
	Montana	6.11	6.15	5.65 - 6.66	12,710
Counter and Rental Clerks					
41-2021	U.S.	8.02	7.16	6.12 - 8.98	16,690
	Montana	6.85	6.26	5.87 - 7.64	14,250
	Yellowstone County MSA	6.94	6.31	5.89 - 7.96	14,430
	Cascade County MSA	7.52	6.25	5.85 - 7.91	15,650
	Missoula County MSA	6.55	6.13	5.85 - 7.12	13,620

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Occupational Title and Code	MSA or Area	Mean Wage	Median Wage	Middle Range	Annual Average
Parts Salespersons					
41-2022	U.S.	12.22	10.92	8.29 - 14.76	25,410
	Montana	10.74	10.34	7.91 - 13.01	22,330
	Yellowstone County MSA	12.61	12.20	9.38 - 14.79	26,220
	Cascade County MSA	10.31	10.14	8.03 - 11.80	21,440
	Missoula County MSA	11.74	11.50	9.93 - 13.54	24,430
Retail Salespersons					
41-2031	U.S.	9.24	7.66	6.27 - 10.00	19,210
	Montana	8.60	7.12	6.07 - 9.25	17,880
	Yellowstone County MSA	9.09	7.40	6.12 - 10.17	18,900
	Cascade County MSA	8.70	7.42	6.13 - 9.47	18,090
	Missoula County MSA	8.33	6.85	6.03 - 8.76	17,330
Advertising Sales Agents					
41-3011	U.S.	19.91	15.93	11.16 - 24.23	41,400
	Montana	14.19	11.94	8.76 - 19.01	29,510
	Yellowstone County MSA	14.92	12.98	10.23 - 18.39	31,040
	Cascade County MSA	12.77	11.59	9.60 - 15.12	26,550
	Missoula County MSA	14.79	12.23	8.81 - 19.95	30,770
Insurance Sales Agents					
41-3021	U.S.	22.93	18.61	12.91 - 28.91	47,690
	Montana	21.49	11.65	9.75 - 28.94	44,700
	Yellowstone County MSA	32.15	16.23	10.77 - 60.24	66,860
Securities, Commodities and Financial Services Sales Agents					
41-3031	U.S.	34.44	28.63	16.41 - 52.59	71,640
	Montana	39.58	34.37	16.17 - #	82,320
	Yellowstone County MSA	30.21	24.58	14.99 - 45.80	62,850
Travel Agents					
41-3041	U.S.	11.86	11.25	8.79 - 14.00	24,660
	Montana	9.62	9.75	7.69 - 11.37	20,010
	Yellowstone County MSA	7.84	7.83	6.75 - 9.25	16,310
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products					
41-4011	U.S.	25.07	22.09	15.90 - 33.95	52,140
	Montana	20.29	18.92	16.22 - 21.81	42,210
	Yellowstone County MSA	18.73	17.67	15.59 - 19.96	38,960
	Cascade County MSA	19.52	16.44	13.71 - 21.09	40,590
	Missoula County MSA	22.06	19.55	18.15 - 20.96	45,890

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Occupational Title and Code	MSA or Area	Mean Wage	Median Wage	Middle Range	Annual Average
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products					
41-4012	U.S.	20.80	17.91	12.81 - 25.52	43,260
	Montana	16.84	14.75	11.29 - 19.49	35,030
	Yellowstone County MSA	16.91	15.15	12.44 - 19.33	35,170
	Cascade County MSA	17.79	15.14	11.77 - 18.93	36,990
	Missoula County MSA	16.42	15.78	10.90 - 20.03	34,140
Demonstrators and Product Promoters					
41-9011	U.S.	10.30	8.56	7.27 - 10.76	21,420
	Montana	6.81	6.75	5.97 - 7.74	14,170
	Yellowstone County MSA	5.96	5.98	5.56 - 6.39	12,390
Real Estate Sales Agents					
41-9022	U.S.	17.78	13.25	9.08 - 21.94	36,990
	Montana	18.18	13.70	10.19 - 21.11	37,800
	Yellowstone County MSA	15.06	11.89	10.09 - 18.39	31,320
	Missoula County MSA	13.97	10.44	9.85 - 17.83	29,060
Sales Engineers					
41-9031	U.S.	27.95	26.13	19.95 - 37.20	58,130
	Montana	29.12	27.20	19.77 - 37.75	60,560
Telemarketers					
41-9041	U.S.	10.15	8.91	7.32 - 11.69	21,100
	Montana	7.52	7.50	6.93 - 8.07	15,640
	Yellowstone County MSA	7.27	7.48	6.97 - 7.99	15,120
Door-To-Door Sales Workers, News and Street Vendors, and Related Workers					
41-9091	U.S.	13.91	11.51	7.83 - 17.45	28,940
	Montana	15.87	15.64	14.42 - 16.86	33,010
Office and Administrative Support Occupations					
First-Line Supervisors/Managers of Office and Administrative Support Workers					
43-1011	U.S.	17.36	15.93	12.17 - 20.66	36,110
	Montana	13.98	12.89	10.31 - 16.38	29,080
	Yellowstone County MSA	14.88	13.59	10.98 - 17.21	30,940
	Cascade County MSA	14.21	13.06	10.09 - 17.75	29,550
	Missoula County MSA	13.99	12.72	10.77 - 16.06	29,100
Switchboard Operators, Including Answering Service					
43-2011	U.S.	9.51	9.11	7.51 - 10.98	19,780
	Montana	8.00	7.71	6.69 - 8.98	16,640
	Yellowstone County MSA	7.90	7.58	6.17 - 8.72	16,420
	Cascade County MSA	7.96	7.92	6.60 - 9.43	16,550
	Missoula County MSA	8.48	8.08	7.09 - 9.74	17,640

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Bill and Account Collectors					
43-3011	U.S.	11.95	11.32	9.36 - 13.67	24,860
	Montana	10.41	9.46	7.86 - 12.15	21,650
	Yellowstone County MSA	10.78	10.12	8.24 - 13.89	22,430
	Cascade County MSA	10.06	9.40	7.82 - 11.69	20,930
	Missoula County MSA	10.01	9.58	7.90 - 11.92	20,820
Billing and Posting Clerks and Machine Operators					
43-3021	U.S.	11.48	11.00	9.19 - 13.23	23,880
	Montana	9.74	9.50	8.04 - 10.87	20,270
	Yellowstone County MSA	10.32	9.87	8.84 - 11.29	21,470
	Cascade County MSA	8.86	8.82	7.46 - 9.94	18,430
	Missoula County MSA	9.76	9.43	7.80 - 10.85	20,300
Bookkeeping, Accounting and Auditing Clerks					
43-3031	U.S.	12.14	11.53	9.24 - 14.33	25,250
	Montana	9.81	9.53	7.56 - 11.59	20,400
	Yellowstone County MSA	10.44	10.18	8.24 - 12.43	21,710
	Cascade County MSA	9.99	9.59	7.83 - 11.71	20,790
	Missoula County MSA	10.45	10.32	8.48 - 12.11	21,730
Payroll and Timekeeping Clerks					
43-3051	U.S.	12.89	12.37	10.29 - 15.14	26,800
	Montana	10.76	10.40	8.66 - 12.48	22,370
	Yellowstone County MSA	10.84	10.26	8.72 - 12.70	22,540
	Missoula County MSA	11.00	11.13	9.11 - 13.23	22,880
Procurement Clerks					
43-3061	U.S.	12.62	12.23	9.79 - 15.02	26,250
	Montana	10.53	10.40	8.16 - 12.76	21,910
Tellers					
43-3071	U.S.	8.81	8.60	7.33 - 10.08	18,330
	Montana	7.70	7.60	6.69 - 8.55	16,010
	Yellowstone County MSA	7.87	7.79	6.98 - 8.60	16,360
	Cascade County MSA	8.21	7.55	6.61 - 8.49	17,070
	Missoula County MSA	7.75	7.67	6.96 - 8.37	16,130
Brokerage Clerks					
43-4011	U.S.	14.99	13.79	11.26 - 17.18	31,180
	Montana	12.38	12.10	9.83 - 13.96	25,750
Correspondence Clerks					
43-4021	U.S.	11.48	11.05	9.35 - 13.01	23,880
	Montana	11.42	11.33	9.76 - 12.80	23,750

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Court, Municipal and License Clerks					
43-4031	U.S.	12.84	12.11	9.55 - 15.36	26,700
	Montana	10.08	9.91	8.35 - 11.73	20,960
	Cascade County MSA	9.96	9.81	8.49 - 11.90	20,720
Credit Authorizers, Checkers and Clerks					
43-4041	U.S.	12.34	11.51	9.10 - 14.74	25,660
	Montana	12.39	12.36	10.72 - 14.30	25,770
Customer Service Representatives					
43-4051	U.S.	12.19	11.30	9.06 - 14.46	25,360
	Montana	9.53	8.96	7.40 - 11.07	19,820
	Yellowstone County MSA	9.67	9.13	7.65 - 11.23	20,110
	Cascade County MSA	8.93	8.35	7.32 - 10.50	18,560
	Missoula County MSA	8.63	7.93	6.96 - 9.77	17,950
File Clerks					
43-4071	U.S.	8.94	8.38	6.94 - 10.30	18,590
	Montana	7.74	7.22	6.01 - 8.97	16,100
	Yellowstone County MSA	7.89	7.42	6.04 - 9.54	16,400
	Cascade County MSA	8.40	7.79	6.07 - 10.15	17,480
	Missoula County MSA	7.29	7.27	6.15 - 8.32	15,170
Hotel, Motel and Resort Desk Clerks					
43-4081	U.S.	7.79	7.54	6.45 - 8.67	16,200
	Montana	6.35	6.25	5.80 - 6.92	13,210
	Yellowstone County MSA	6.69	6.63	5.95 - 7.69	13,920
	Cascade County MSA	6.25	6.30	5.79 - 6.84	13,000
Interviewers, Except Eligibility and Loan					
43-4111	U.S.	10.25	9.66	7.84 - 12.01	21,320
	Montana	9.35	8.31	6.71 - 11.52	19,450
Library Assistants, Clerical					
43-4121	U.S.	9.14	8.49	6.58 - 11.20	19,010
	Montana	6.41	6.10	5.63 - 6.58	13,340
Loan Interviewers and Clerks					
43-4131	U.S.	12.79	12.12	9.90 - 14.98	26,600
	Montana	11.08	10.12	9.03 - 11.91	23,050
	Yellowstone County MSA	16.11	12.46	11.17 - 16.37	33,500
	Cascade County MSA	8.59	8.38	7.54 - 9.66	17,860
	Missoula County MSA	9.03	9.17	7.30 - 10.58	18,790

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Occupational Title and Code	MSA or Area	Mean Wage	Median Wage	Middle Range	Annual Average
New Accounts Clerks					
43-4141	U.S.	10.81	10.63	9.12 - 12.34	22,480
	Montana	8.82	8.63	7.73 - 9.90	18,350
	Yellowstone County MSA	9.32	9.52	8.52 - 10.25	19,390
	Cascade County MSA	9.06	9.16	7.85 - 10.20	18,840
	Missoula County MSA	10.08	10.06	9.36 - 10.78	20,970
Order Clerks					
43-4151	U.S.	11.51	10.78	8.68 - 13.69	23,950
	Montana	9.70	9.01	7.63 - 10.43	20,170
	Yellowstone County MSA	9.09	8.72	7.46 - 10.22	18,900
	Cascade County MSA	9.22	8.39	7.57 - 10.03	19,190
	Missoula County MSA	10.10	8.87	7.47 - 10.61	21,000
Human Resources Assistants, Except Payroll and Timekeeping					
43-4161	U.S.	13.05	12.59	10.33 - 15.41	27,140
	Montana	11.66	10.92	9.48 - 13.90	24,250
	Yellowstone County MSA	11.70	11.34	9.51 - 14.50	24,340
	Cascade County MSA	11.53	10.97	9.44 - 14.02	23,980
	Missoula County MSA	11.10	9.95	9.33 - 12.06	23,090
Receptionists and Information Clerks					
43-4171	U.S.	9.55	9.26	7.51 - 11.11	19,870
	Montana	7.87	7.62	6.51 - 8.96	16,370
	Yellowstone County MSA	8.49	8.23	7.01 - 9.84	17,670
	Cascade County MSA	7.97	7.72	6.65 - 9.04	16,570
	Missoula County MSA	8.26	8.07	6.94 - 9.45	17,190
Reservation and Transportation Ticket Agents and Travel Clerks					
43-4181	U.S.	12.47	10.74	8.84 - 16.82	25,930
	Montana	8.35	7.90	7.32 - 8.47	17,360
Couriers and Messengers					
43-5021	U.S.	9.04	8.36	6.80 - 10.45	18,810
	Montana	7.63	7.21	5.97 - 8.43	15,870
	Yellowstone County MSA	6.72	5.97	5.72 - 6.39	13,970
Police, Fire and Ambulance Dispatchers					
43-5031	U.S.	12.26	11.77	9.38 - 14.84	25,500
	Montana	9.84	9.79	7.92 - 11.88	20,470
Dispatchers, Except Police, Fire and Ambulance					
43-5032	U.S.	14.14	13.00	9.85 - 17.28	29,420
	Montana	12.56	10.63	9.06 - 14.96	26,120
	Yellowstone County MSA	12.48	10.21	9.21 - 14.88	25,960
	Missoula County MSA	14.30	14.13	12.26 - 16.50	29,740

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1999 Montana Occupational Wage Survey

Occupational Title and Code	MSA or Area	Mean Wage	Median Wage	Middle Range	Annual Average
Meter Readers, Utilities					
43-5041	U.S.	13.16	12.45	9.42 - 16.56	27,370
	Montana	11.56	12.30	8.00 - 14.85	24,050
Postal Service Clerks					
43-5051	U.S.	18.37	18.64	17.21 - 20.08	38,220
	Montana	18.09	18.35	16.56 - 19.92	37,620
Postal Service Mail Carriers					
43-5052	U.S.	17.60	18.21	15.47 - 20.00	36,610
	Montana	16.85	17.74	14.11 - 19.68	35,060
Postal Service Mail Sorters, Processors and Processing Machine Operators					
43-5053	U.S.	14.47	14.86	10.25 - 18.62	30,100
	Montana	11.27	10.69	7.39 - 14.48	23,440
Production, Planning and Expediting Clerks					
43-5061	U.S.	15.24	14.47	10.97 - 18.83	31,700
	Montana	12.05	10.76	8.07 - 14.89	25,060
	Yellowstone County MSA	16.00	14.50	10.69 - 19.57	33,270
	Cascade County MSA	13.33	13.06	8.86 - 17.73	27,720
	Missoula County MSA	9.82	8.16	7.08 - 12.94	20,430
Shipping, Receiving and Traffic Clerks					
43-5071	U.S.	10.62	9.99	7.97 - 12.51	22,080
	Montana	8.65	8.08	6.81 - 9.96	18,000
	Yellowstone County MSA	9.06	8.49	6.83 - 10.61	18,850
	Cascade County MSA	8.85	7.97	6.50 - 10.71	18,410
	Missoula County MSA	8.28	7.69	6.52 - 9.53	17,210
Stock Clerks and Order Fillers					
43-5081	U.S.	9.45	8.35	6.69 - 10.98	19,650
	Montana	9.00	7.74	6.22 - 10.38	18,720
	Yellowstone County MSA	8.87	7.68	6.24 - 10.53	18,450
	Cascade County MSA	9.01	8.19	6.50 - 10.78	18,740
	Missoula County MSA	9.18	8.10	6.51 - 10.75	19,090
Weighers, Measurers, Checkers and Samplers, Recordkeeping					
43-5111	U.S.	12.34	10.96	8.54 - 15.53	25,670
	Montana	9.18	8.61	7.56 - 10.49	19,100
	Yellowstone County MSA	8.81	8.27	7.45 - 9.97	18,320
Executive Secretaries and Administrative Assistants					
43-6011	U.S.	14.84	14.21	11.47 - 17.24	30,870
	Montana	11.19	10.47	8.99 - 13.21	23,260
	Yellowstone County MSA	10.89	10.06	9.06 - 11.92	22,640
	Cascade County MSA	10.36	10.00	7.96 - 12.60	21,550
	Missoula County MSA	10.55	9.94	8.81 - 11.95	21,940

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Legal Secretaries					
43-6012	U.S.	15.48	15.04	11.67 - 18.83	32,200
	Montana	11.23	10.35	9.42 - 12.72	23,350
	Yellowstone County MSA	12.68	12.57	11.11 - 14.34	26,370
	Cascade County MSA	13.35	12.35	11.18 - 15.28	27,760
Medical Secretaries					
43-6013	U.S.	11.51	10.95	9.17 - 13.21	23,940
	Montana	10.19	9.90	7.99 - 11.83	21,190
	Yellowstone County MSA	11.37	11.72	10.77 - 12.86	23,640
	Missoula County MSA	9.87	10.37	8.08 - 11.47	20,540
Secretaries, Except Legal, Medical and Executive					
43-6014	U.S.	11.60	11.18	8.96 - 13.84	24,130
	Montana	9.17	9.00	7.57 - 10.30	19,070
	Yellowstone County MSA	9.26	9.24	7.92 - 10.31	19,250
	Cascade County MSA	9.25	9.35	7.56 - 10.57	19,250
	Missoula County MSA	8.36	8.24	7.39 - 9.48	17,390
Computer Operators					
43-9011	U.S.	13.54	12.70	10.06 - 16.19	28,170
	Montana	11.53	11.08	8.87 - 13.25	23,970
	Yellowstone County MSA	12.20	10.56	9.35 - 16.04	25,390
	Missoula County MSA	11.84	11.76	9.28 - 13.83	24,630
Data Entry Keyers					
43-9021	U.S.	10.13	9.77	8.08 - 11.67	21,070
	Montana	8.86	8.41	7.37 - 10.48	18,420
	Yellowstone County MSA	8.78	8.74	7.40 - 10.20	18,260
	Cascade County MSA	8.25	7.97	6.79 - 9.72	17,150
	Missoula County MSA	8.49	8.10	7.36 - 9.56	17,660
Word Processors and Typists					
43-9022	U.S.	11.67	11.29	9.23 - 13.59	24,270
	Montana	9.68	9.34	7.60 - 10.98	20,130
	Yellowstone County MSA	9.72	9.60	7.51 - 11.78	20,220
	Cascade County MSA	9.67	9.47	7.75 - 10.97	20,100
Desktop Publishers					
43-9031	U.S.	14.98	14.12	10.66 - 18.36	31,170
	Montana	10.87	11.66	8.49 - 12.58	22,610
Insurance Claims and Policy Processing Clerks					
43-9041	U.S.	15.38	13.93	10.94 - 17.97	32,000
	Montana	11.91	12.01	11.18 - 12.85	24,780

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Occupational Title and Code	MSA or Area	Mean Wage	Median Wage	Middle Range	Annual Average
Mail Clerks and Mail Machine Operators, Except Postal Service					
43-9051	U.S.	9.33	8.76	7.28 - 10.75	19,400
	Montana	8.26	7.78	6.62 - 9.07	17,180
	Yellowstone County MSA	7.41	7.24	6.29 - 8.33	15,410
	Missoula County MSA	8.57	8.08	7.32 - 9.54	17,820
Office Clerks, General					
43-9061	U.S.	10.31	9.77	7.82 - 12.25	21,450
	Montana	8.98	8.29	7.07 - 10.17	18,680
	Yellowstone County MSA	7.77	7.51	6.37 - 8.82	16,150
	Cascade County MSA	8.69	8.62	7.03 - 10.14	18,080
	Missoula County MSA	8.52	8.18	6.98 - 10.07	17,730
Office Machine Operators, Except Computer					
43-9071	U.S.	10.34	9.71	7.87 - 11.96	21,510
	Montana	8.82	8.38	6.85 - 10.04	18,350
Proofreaders and Copy Markers					
43-9081	U.S.	10.46	9.37	7.60 - 12.33	21,750
	Montana	7.97	7.91	6.87 - 9.00	16,580
Statistical Assistants					
43-9111	U.S.	12.49	11.55	9.06 - 15.47	25,970
	Montana	11.58	11.46	9.44 - 13.34	24,080
Farming, Fishing and Forestry Occupations					
First-Line Supervisors/Managers of Farming, Fishing and Forestry Workers					
45-1011	U.S.	15.88	14.59	10.87 - 19.61	33,030
	Montana	17.24	18.55	17.05 - 20.04	35,850
Graders and Sorters, Agricultural Products					
45-2041	U.S.	7.46	6.76	6.10 - 8.20	15,520
	Montana	9.12	9.20	6.64 - 10.60	18,980
Agricultural Equipment Operators					
45-2091	U.S.	8.48	7.67	6.39 - 9.65	17,640
	Montana	8.19	8.16	7.05 - 9.64	17,030
Farmworkers and Laborers, Crop, Nursery and Greenhouse					
45-2092	U.S.	6.80	6.42	6.03 - 7.13	14,150
	Montana	8.83	7.90	6.91 - 10.30	18,380
Farmworkers, Farm and Ranch Animals					
45-2093	U.S.	7.96	7.40	6.28 - 9.03	16,560
	Montana	8.22	7.35	6.07 - 9.56	17,100
	Yellowstone County MSA	9.43	8.39	6.92 - 11.94	19,600

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Logging Equipment Operators					
45-4022	U.S.	12.17	11.43	9.30 - 14.66	25,310
	Montana	14.46	14.61	12.77 - 16.15	30,080
Log Graders and Scalers					
45-4023	U.S.	12.59	11.61	9.56 - 14.75	26,180
	Montana	13.37	12.99	12.00 - 14.72	27,810
Construction and Extraction Occupations					
First-Line Supervisors/Managers of Construction Trades and Extraction Workers					
47-1011	U.S.	21.98	20.71	16.34 - 26.16	45,720
	Montana	20.29	19.89	16.09 - 24.22	42,210
	Yellowstone County MSA	21.91	22.88	18.97 - 25.35	45,570
	Cascade County MSA	20.05	19.69	15.70 - 24.25	41,700
	Missoula County MSA	18.24	18.49	13.39 - 21.42	37,940
Boilermakers					
47-2011	U.S.	18.51	18.09	14.02 - 23.30	38,500
	Montana	19.69	19.48	18.13 - 20.90	40,960
Brickmasons and Blockmasons					
47-2021	U.S.	19.90	19.36	15.15 - 24.49	41,380
	Montana	22.24	23.37	21.14 - 25.31	46,260
Stonemasons					
47-2022	U.S.	16.46	15.36	11.79 - 20.08	34,240
	Montana	18.08	18.84	17.50 - 20.17	37,600
Carpenters					
47-2031	U.S.	16.55	15.35	11.73 - 20.60	34,420
	Montana	13.40	14.10	11.32 - 15.72	27,860
	Yellowstone County MSA	13.27	13.83	10.88 - 15.65	27,590
	Cascade County MSA	13.62	14.56	12.71 - 15.85	28,330
	Missoula County MSA	15.06	15.21	14.23 - 16.20	31,320
Tile and Marble Setters					
47-2044	U.S.	17.84	17.08	12.71 - 22.61	37,100
	Montana	14.55	12.92	11.81 - 18.13	30,260
Cement Masons and Concrete Finishers					
47-2051	U.S.	15.01	13.68	10.61 - 18.87	31,210
	Montana	13.83	13.96	12.08 - 15.69	28,760
	Yellowstone County MSA	12.34	12.29	11.16 - 13.42	25,660

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Occupational Title and Code	MSA or Area	Mean Wage	Median Wage	Middle Range	Annual Average
Construction Laborers					
47-2061	U.S.	12.75	10.85	8.56 - 16.19	26,510
	Montana	11.60	10.42	8.70 - 14.90	24,140
	Yellowstone County MSA	14.08	14.61	10.39 - 16.84	29,280
	Cascade County MSA	10.86	10.26	7.97 - 13.84	22,600
	Missoula County MSA	12.28	12.49	9.64 - 15.03	25,550
Paving, Surfacing and Tamping Equipment Operators					
47-2071	U.S.	13.99	12.45	9.94 - 17.07	29,090
	Montana	13.20	12.40	11.18 - 15.27	27,470
Operating Engineers and Other Construction Equipment Operators					
47-2073	U.S.	16.71	15.31	11.68 - 20.52	34,760
	Montana	15.40	15.27	12.37 - 18.19	32,030
	Yellowstone County MSA	16.57	17.56	14.72 - 19.05	34,470
	Cascade County MSA	18.06	17.08	14.56 - 21.02	37,560
	Missoula County MSA	15.73	15.68	13.95 - 17.46	32,710
Drywall and Ceiling Tile Installers					
47-2081	U.S.	16.39	15.34	11.97 - 20.18	34,090
	Montana	16.67	16.57	14.66 - 18.97	34,670
Electricians					
47-2111	U.S.	20.28	19.13	14.40 - 25.55	42,180
	Montana	18.33	18.91	15.69 - 21.38	38,130
	Yellowstone County MSA	18.64	19.53	17.43 - 21.86	38,770
	Missoula County MSA	17.12	16.90	14.93 - 19.38	35,610
Glaziers					
47-2121	U.S.	14.75	13.33	10.20 - 18.18	30,680
	Montana	11.65	11.92	9.56 - 13.37	24,220
Insulation Workers					
47-2130	U.S.	14.02	12.52	9.78 - 16.20	29,170
	Montana	11.15	10.53	7.89 - 13.01	23,190
	Yellowstone County MSA	14.81	15.27	8.34 - 19.64	30,800
	Missoula County MSA	8.80	8.01	7.38 - 10.76	18,300
Painters, Construction and Maintenance					
47-2141	U.S.	14.08	12.86	10.25 - 16.66	29,280
	Montana	13.57	13.90	11.26 - 16.05	28,220
	Yellowstone County MSA	13.67	14.87	7.91 - 18.49	28,440
	Cascade County MSA	14.40	14.56	12.36 - 16.31	29,950
	Missoula County MSA	13.06	13.21	10.33 - 15.74	27,170
Pipelayers					
47-2151	U.S.	14.08	12.67	9.89 - 17.56	29,290
	Montana	15.44	13.90	12.38 - 18.43	32,110

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Occupational Title and Code	MSA or Area	Mean Wage	Median Wage	Middle Range	Annual Average
Plumbers, Pipefitters and Steamfitters					
47-2152	U.S.	18.63	17.41	13.33 - 23.06	38,750
	Montana	18.71	19.33	13.65 - 22.88	38,920
	Yellowstone County MSA	20.32	21.81	11.64 - 24.93	42,270
	Cascade County MSA	18.86	20.04	15.42 - 22.68	39,220
Reinforcing Iron and Rebar Workers					
47-2171	U.S.	17.79	16.03	12.11 - 23.07	37,000
	Montana	19.48	19.36	18.18 - 20.54	40,520
Roofers					
47-2181	U.S.	14.36	12.94	10.20 - 17.51	29,870
	Montana	11.12	11.36	9.03 - 12.95	23,130
	Yellowstone County MSA	12.16	12.38	10.48 - 14.16	25,290
Sheet Metal Workers					
47-2211	U.S.	15.92	14.09	10.68 - 20.09	33,110
	Montana	16.76	18.11	10.94 - 21.04	34,860
	Yellowstone County MSA	16.34	18.03	10.59 - 20.08	33,980
	Cascade County MSA	17.31	18.56	12.30 - 21.04	36,000
	Missoula County MSA	18.58	20.33	16.27 - 23.00	38,640
Helpers, Brickmasons, Blockmasons, Stonemasons and Tile and Marble Setters					
47-3011	U.S.	12.03	10.61	8.67 - 14.07	25,020
	Montana	12.99	13.71	10.85 - 15.35	27,020
Helpers, Carpenters					
47-3012	U.S.	10.20	9.61	7.76 - 11.52	21,210
	Montana	10.38	10.71	8.58 - 11.73	21,600
	Cascade County MSA	7.41	6.68	6.00 - 9.08	15,400
Helpers, Painters, Paperhangers, Plasterers and Stucco Masons					
47-3014	U.S.	9.73	8.95	7.26 - 11.05	20,230
	Montana	9.51	9.90	8.95 - 10.79	19,780
Construction and Building Inspectors					
47-4011	U.S.	19.11	18.55	14.55 - 23.07	39,740
	Montana	15.66	15.14	13.03 - 18.02	32,580
	Yellowstone County MSA	13.92	13.10	12.46 - 13.74	28,950
	Cascade County MSA	17.22	16.81	15.24 - 19.10	35,820
Hazardous Materials Removal Workers					
47-4041	U.S.	15.22	14.05	11.06 - 18.77	31,650
	Montana	14.88	14.95	13.14 - 16.26	30,960

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Highway Maintenance Workers					
47-4051	U.S.	12.85	12.44	9.65 - 15.66	26,730
	Montana	13.46	13.47	11.93 - 15.11	28,000
	Missoula County MSA	13.55	12.87	12.25 - 13.49	28,170
Rail-Track Laying and Maintenance Equipment Operators					
47-4061	U.S.	17.81	17.67	14.83 - 20.19	37,050
	Montana	18.16	17.66	15.11 - 19.55	37,780
Derrick Operators, Oil and Gas					
47-5011	U.S.	14.24	12.84	10.31 - 18.01	29,630
	Montana	12.25	12.27	10.27 - 13.26	25,470
Rotary Drill Operators, Oil and Gas					
47-5012	U.S.	17.81	15.71	12.29 - 21.44	37,040
	Montana	16.28	17.80	12.90 - 19.26	33,870
Service Unit Operators, Oil, Gas and Mining					
47-5013	U.S.	12.39	11.29	9.64 - 13.87	25,780
	Montana	13.79	13.55	11.97 - 15.64	28,680
Earth Drillers, Except Oil and Gas					
47-5021	U.S.	15.02	13.75	11.10 - 17.75	31,240
	Montana	14.62	14.83	11.85 - 16.38	30,400
Roustabouts, Oil and Gas					
47-5071	U.S.	11.18	10.08	7.93 - 13.04	23,260
	Montana	11.91	11.58	10.94 - 13.15	24,770
Helpers, Extraction Workers					
47-5081	U.S.	10.62	9.83	8.14 - 12.47	22,090
	Montana	10.53	10.41	8.13 - 12.66	21,900

Installation, Maintenance and Repair Occupations

First-Line Supervisors/Managers of Mechanics, Installers and Repairers					
49-1011	U.S.	21.65	20.54	15.71 - 26.15	45,040
	Montana	19.22	18.22	15.01 - 23.47	39,970
	Yellowstone County MSA	19.06	16.53	14.63 - 22.22	39,650
	Cascade County MSA	20.75	21.20	16.54 - 24.74	43,160
	Missoula County MSA	18.00	17.64	15.34 - 20.15	37,450

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Occupational Title and Code	MSA or Area	Mean Wage	Median Wage	Middle Range	Annual Average
Computer, Automated Teller and Office Machine Repairers					
49-2011	U.S.	15.04	14.26	11.18 - 18.39	31,290
	Montana	12.00	11.33	9.24 - 14.68	24,950
	Yellowstone County MSA	13.32	13.14	10.41 - 15.81	27,710
	Cascade County MSA	10.78	10.00	7.95 - 13.05	22,410
	Missoula County MSA	11.70	10.61	9.16 - 13.62	24,330
Telecommunications Equipment Installers and Repairers, Except Line Installers					
49-2022	U.S.	19.77	20.37	15.52 - 24.34	41,130
	Montana	16.34	17.35	9.77 - 22.28	33,990
	Yellowstone County MSA	16.62	15.69	12.92 - 20.00	34,570
	Missoula County MSA	22.07	23.30	20.66 - 25.27	45,910
Electric Motor, Power Tool and Related Repairers					
49-2092	U.S.	14.81	13.97	10.63 - 18.05	30,800
	Montana	17.51	16.53	14.22 - 19.92	36,410
	Yellowstone County MSA	17.36	15.39	12.16 - 21.08	36,100
Electrical and Electronics Repairers, Commercial and Industrial Equipment					
49-2094	U.S.	17.39	17.15	13.66 - 20.70	36,160
	Montana	18.71	17.34	12.97 - 23.22	38,920
	Missoula County MSA	16.34	15.55	12.32 - 19.02	33,990
Electrical and Electronics Repairers, Powerhouse, Substation and Relay					
49-2095	U.S.	21.87	22.92	18.20 - 25.82	45,490
	Montana	24.55	24.62	23.06 - 26.18	51,070
Electronic Home Entertainment Equipment Installers and Repairers					
49-2097	U.S.	12.99	12.03	9.38 - 15.87	27,020
	Montana	12.17	12.05	11.08 - 13.03	25,310
Aircraft Mechanics and Service Technicians					
49-3011	U.S.	18.88	18.90	15.25 - 22.58	39,280
	Montana	14.72	14.34	11.77 - 17.78	30,630
Automotive Body and Related Repairers					
49-3021	U.S.	16.21	15.06	11.30 - 20.03	33,720
	Montana	15.23	15.21	14.02 - 16.40	31,680
	Cascade County MSA	14.58	13.44	9.73 - 19.21	30,330
Automotive Glass Installers and Repairers					
49-3022	U.S.	13.34	13.26	9.79 - 16.01	27,740
	Montana	8.44	7.78	7.27 - 8.29	17,550

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1999 Montana Occupational Wage Survey

Occupational Title and Code	MSA or Area	Mean Wage	Median Wage	Middle Range	Annual Average
Automotive Service Technicians and Mechanics					
49-3023	U.S.	14.49	13.62	10.30 - 17.79	30,130
	Montana	12.72	12.39	9.36 - 15.14	26,470
	Yellowstone County MSA	13.60	13.31	9.72 - 16.16	28,290
	Cascade County MSA	11.27	10.16	8.14 - 14.19	23,450
	Missoula County MSA	15.65	15.00	12.71 - 18.86	32,550
Bus and Truck Mechanics and Diesel Engine Specialists					
49-3031	U.S.	15.29	14.77	11.76 - 18.29	31,800
	Montana	14.16	14.11	11.92 - 16.76	29,450
	Yellowstone County MSA	14.84	14.64	12.03 - 18.04	30,860
	Cascade County MSA	13.63	14.25	10.63 - 16.07	28,340
	Missoula County MSA	13.97	14.55	11.92 - 16.26	29,050
Farm Equipment Mechanics					
49-3041	U.S.	11.91	11.42	9.22 - 14.00	24,770
	Montana	11.28	11.10	9.75 - 12.72	23,450
	Yellowstone County MSA	12.01	12.25	10.99 - 13.40	24,980
Mobile Heavy Equipment Mechanics, Except Engines					
49-3042	U.S.	16.24	15.75	12.62 - 19.16	33,790
	Montana	15.87	15.88	13.85 - 18.48	33,000
	Yellowstone County MSA	13.85	13.65	9.32 - 18.11	28,810
	Cascade County MSA	15.18	14.90	12.43 - 17.64	31,570
	Missoula County MSA	16.29	15.84	14.59 - 17.31	33,890
Motorboat Mechanics					
49-3051	U.S.	13.52	13.01	9.93 - 16.22	28,120
	Montana	13.80	14.80	13.70 - 15.90	28,700
Motorcycle Mechanics					
49-3052	U.S.	12.26	11.61	9.32 - 14.81	25,510
	Montana	9.81	8.73	7.50 - 12.05	20,400
	Yellowstone County MSA	11.03	10.75	9.30 - 12.77	22,940
Outdoor Power Equipment and Other Small Engine Mechanics					
49-3053	U.S.	11.38	10.86	8.80 - 13.32	23,660
	Montana	7.97	7.80	7.04 - 8.69	16,570
	Yellowstone County MSA	6.97	6.38	5.76 - 8.45	14,490
Recreational Vehicle Service Technicians					
49-3092	U.S.	12.49	11.86	9.65 - 14.51	25,980
	Montana	11.64	11.73	9.07 - 14.35	24,210
	Missoula County MSA	13.23	14.17	11.42 - 15.58	27,510

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Occupational Title and Code	MSA or Area	Mean Wage	Median Wage	Middle Range	Annual Average
Tire Repairers and Changers 49-3093	U.S.	8.96	8.37	7.11 - 10.26	18,630
	Montana	9.05	8.54	7.28 - 10.40	18,830
	Yellowstone County MSA	8.94	9.26	7.24 - 10.21	18,590
Mechanical Door Repairers 49-9011	U.S.	14.77	14.68	11.27 - 17.34	30,710
	Montana	11.58	11.19	9.57 - 13.91	24,090
	Cascade County MSA	11.66	11.98	9.29 - 14.60	24,240
Heating, Air Conditioning and Refrigeration Mechanics and Installers 49-9021	U.S.	15.40	14.50	11.35 - 18.63	32,040
	Montana	14.38	13.73	10.33 - 18.49	29,920
	Cascade County MSA	16.95	17.49	12.61 - 21.23	35,250
Home Appliance Repairers 49-9031	U.S.	14.43	13.95	10.75 - 18.01	30,020
	Montana	11.55	11.45	8.15 - 14.51	24,030
	Yellowstone County MSA	12.69	12.71	6.09 - 18.93	26,400
Industrial Machinery Mechanics 49-9041	U.S.	17.41	16.56	13.10 - 21.02	36,210
	Montana	15.15	13.99	11.90 - 16.49	31,520
	Yellowstone County MSA	20.65	18.09	15.52 - 27.92	42,960
Maintenance and Repair Workers, General 49-9042	U.S.	12.95	11.99	9.06 - 16.08	26,930
	Montana	10.48	9.81	7.60 - 12.70	21,800
	Yellowstone County MSA	10.16	9.35	7.64 - 11.45	21,130
	Cascade County MSA	9.90	9.30	7.02 - 11.79	20,600
	Missoula County MSA	10.45	10.71	8.04 - 12.36	21,730
Maintenance Workers, Machinery 49-9043	U.S.	15.29	14.57	11.40 - 18.60	31,800
	Montana	14.49	14.39	12.16 - 16.29	30,130
Millwrights 49-9044	U.S.	18.90	18.76	14.77 - 22.99	39,320
	Montana	20.17	16.74	13.59 - 29.82	41,940
Electrical Power-Line Installers and Repairers 49-9051	U.S.	20.91	20.97	16.37 - 24.73	43,490
	Montana	22.09	22.76	20.66 - 24.61	45,940
Telecommunications Line Installers and Repairers 49-9052	U.S.	17.21	16.35	11.54 - 22.12	35,790
	Montana	17.79	20.14	10.79 - 23.11	36,990

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Occupational Title and Code	MSA or Area	Mean Wage	Median Wage	Middle Range	Annual Average
Medical Equipment Repairers					
49-9062	U.S.	17.02	16.45	12.57 - 20.40	35,390
	Montana	14.44	14.76	11.01 - 18.08	30,040
Coin, Vending and Amusement Machine Servicers and Repairers					
49-9091	U.S.	12.33	11.94	8.73 - 15.28	25,650
	Montana	11.22	11.63	8.67 - 13.44	23,330
Locksmiths and Safe Repairers					
49-9094	U.S.	13.47	12.66	10.10 - 16.16	28,020
	Montana	11.10	10.15	8.32 - 13.58	23,080
Helpers, Installation, Maintenance and Repair Workers					
49-9098	U.S.	10.03	9.14	7.23 - 11.78	20,860
	Montana	9.22	8.15	6.84 - 10.15	19,180
	Yellowstone County MSA	8.62	8.51	6.91 - 10.00	17,940
	Missoula County MSA	10.93	8.68	7.36 - 13.49	22,730
Production Occupations					
First-Line Supervisors/Managers of Production and Operating Workers					
51-1011	U.S.	19.83	18.61	14.16 - 24.37	41,250
	Montana	16.35	14.82	11.37 - 20.95	34,010
	Yellowstone County MSA	20.85	18.43	13.68 - 25.24	43,370
	Cascade County MSA	16.06	15.48	13.94 - 17.08	33,400
	Missoula County MSA	14.29	13.05	10.22 - 15.88	29,730
Coil Winders, Tapers and Finishers					
51-2021	U.S.	10.45	9.65	7.79 - 12.42	21,740
	Montana	8.36	8.38	7.27 - 9.36	17,380
Electrical and Electronic Equipment Assemblers					
51-2022	U.S.	10.50	9.84	7.90 - 12.49	21,840
	Montana	10.10	9.59	8.03 - 11.63	21,000
Structural Metal Fabricators and Fitters					
51-2041	U.S.	13.21	12.62	10.04 - 15.60	27,470
	Montana	11.57	11.69	10.45 - 12.79	24,060
Team Assemblers					
51-2092	U.S.	10.67	9.95	8.04 - 12.52	22,200
	Montana	10.18	10.56	8.31 - 12.12	21,170
	Yellowstone County MSA	9.66	9.66	8.17 - 11.30	20,090
	Missoula County MSA	8.57	8.10	7.02 - 10.52	17,830

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Occupational Title and Code	MSA or Area	Mean Wage	Median Wage	Middle Range	Annual Average
Bakers					
51-3011	U.S.	9.61	8.82	7.03 - 11.41	19,990
	Montana	8.57	8.35	6.73 - 10.01	17,830
	Yellowstone County MSA	7.97	6.94	6.14 - 8.74	16,570
	Missoula County MSA	9.22	9.60	8.44 - 10.19	19,180
Butchers and Meat Cutters					
51-3021	U.S.	11.97	11.20	8.44 - 15.07	24,890
	Montana	11.73	11.65	9.65 - 13.20	24,400
	Yellowstone County MSA	11.37	11.21	9.06 - 13.79	23,640
	Missoula County MSA	13.40	12.46	11.60 - 13.31	27,880
Meat, Poultry and Fish Cutters and Trimmers					
51-3022	U.S.	8.35	8.08	7.09 - 9.36	17,370
	Montana	10.52	10.58	9.41 - 11.99	21,890
Slaughterers and Meat Packers					
51-3023	U.S.	9.13	9.18	7.95 - 10.26	18,980
	Montana	9.63	9.61	8.75 - 10.48	20,020
Food Batchmakers					
51-3092	U.S.	10.22	9.64	7.29 - 12.70	21,260
	Montana	7.30	6.42	5.79 - 8.14	15,170
Forging Machine Setters, Operators and Tenders, Metal and Plastic					
51-4022	U.S.	12.99	11.91	9.14 - 15.50	27,020
	Montana	9.21	8.31	6.93 - 11.90	19,160
Cutting, Punching and Press Machine Setters, Operators and Tenders, Metal and Plastic					
51-4031	U.S.	11.37	10.67	8.69 - 13.33	23,640
	Montana	10.51	10.65	8.37 - 12.56	21,850
Grinding, Lapping, Polishing and Buffing Machine Tool Setters, Operators and Tenders, Metal and Plastic					
51-4033	U.S.	12.14	11.54	9.14 - 14.56	25,250
	Montana	8.17	6.49	5.82 - 11.22	17,000
Machinists					
51-4041	U.S.	14.69	14.30	11.08 - 17.67	30,540
	Montana	14.11	14.49	10.18 - 17.72	29,350
	Yellowstone County MSA	15.05	15.29	11.95 - 18.57	31,300
	Missoula County MSA	12.58	12.94	9.65 - 15.68	26,160
Multiple Machine Tool Setters, Operators and Tenders, Metal and Plastic					
51-4081	U.S.	12.89	12.00	9.60 - 15.35	26,820
	Montana	10.56	9.93	8.96 - 12.25	21,970

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Occupational Title and Code	MSA or Area	Mean Wage	Median Wage	Middle Range	Annual Average
Welders, Cutters, Solderers and Brazers					
51-4121	U.S.	13.40	12.58	10.29 - 15.74	27,870
	Montana	13.72	12.88	10.23 - 17.07	28,540
Tool Grinders, Filers and Sharpeners					
51-4194	U.S.	13.97	13.19	10.36 - 16.70	29,060
	Montana	11.54	11.93	8.36 - 13.71	24,010
Bindery Workers					
51-5011	U.S.	10.90	9.74	7.72 - 12.93	22,660
	Montana	7.64	7.61	7.09 - 8.13	15,890
Job Printers					
51-5021	U.S.	13.17	12.55	9.69 - 16.07	27,390
	Montana	12.64	13.62	8.95 - 16.01	26,280
Prepress Technicians and Workers					
51-5022	U.S.	14.90	13.90	10.42 - 18.30	30,990
	Montana	13.28	12.20	10.01 - 16.45	27,630
Printing Machine Operators					
51-5023	U.S.	13.86	12.94	10.00 - 16.77	28,830
	Montana	10.82	10.20	7.72 - 14.23	22,500
	Yellowstone County MSA	11.58	11.39	9.10 - 14.54	24,080
	Missoula County MSA	11.75	11.27	8.60 - 15.10	24,430
Laundry and Dry-Cleaning Workers					
51-6011	U.S.	7.58	7.25	6.21 - 8.39	15,760
	Montana	6.99	6.93	6.03 - 7.94	14,550
	Yellowstone County MSA	7.05	6.97	6.06 - 7.92	14,650
	Cascade County MSA	7.42	7.25	6.11 - 8.85	15,440
	Missoula County MSA	7.70	7.77	6.53 - 9.14	16,020
Pressers, Textile, Garment and Related Materials					
51-6021	U.S.	7.77	7.49	6.35 - 8.72	16,170
	Montana	7.00	7.09	6.32 - 7.90	14,550
	Yellowstone County MSA	6.29	6.37	5.82 - 6.93	13,080
Sewing Machine Operators					
51-6031	U.S.	8.05	7.57	6.36 - 9.13	16,750
	Montana	7.62	7.31	6.17 - 8.90	15,860
Tailors, Dressmakers and Custom Sewers					
51-6052	U.S.	10.22	9.29	7.18 - 12.13	21,260
	Montana	7.11	7.23	6.46 - 7.98	14,790
	Cascade County MSA	7.35	7.39	6.41 - 8.23	15,280

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Upholsterers 51-6093	U.S.	11.58	10.98	8.84 - 13.57	24,090
	Montana	9.72	8.73	7.09 - 12.75	20,210
	Yellowstone County MSA	8.37	7.86	7.21 - 8.54	17,400
Cabinetmakers and Bench Carpenters 51-7011	U.S.	11.20	10.46	8.39 - 13.23	23,300
	Montana	10.12	9.80	7.86 - 12.04	21,050
Furniture Finishers 51-7021	U.S.	10.41	9.86	7.98 - 12.07	21,650
	Montana	7.55	6.64	5.96 - 8.29	15,710
Sawing Machine Setters, Operators and Tenders, Wood 51-7041	U.S.	10.22	9.71	7.90 - 11.87	21,250
	Montana	11.40	11.88	9.22 - 13.28	23,720
	Missoula County MSA	12.78	13.22	12.20 - 14.41	26,580
Woodworking Machine Setters, Operators and Tenders, Except Sawing 51-7042	U.S.	10.02	9.65	7.97 - 11.72	20,840
	Montana	11.22	10.59	9.49 - 12.65	23,330
Power Distributors and Dispatchers 51-8012	U.S.	22.89	22.60	18.62 - 26.60	47,600
	Montana	25.14	25.08	22.72 - 27.79	52,290
Stationary Engineers and Boiler Operators 51-8021	U.S.	18.78	18.54	14.40 - 22.94	39,070
	Montana	15.45	14.68	11.80 - 16.84	32,140
	Yellowstone County MSA	26.47	28.32	21.18 - 31.41	55,050
	Missoula County MSA	14.75	15.04	14.06 - 16.02	30,680
Water and Liquid Waste Treatment Plant and System Operators 51-8031	U.S.	15.07	14.46	11.34 - 18.16	31,350
	Montana	12.95	13.18	10.57 - 15.37	26,940
	Cascade County MSA	13.34	13.56	12.11 - 15.35	27,750
Petroleum Pump System Operators, Refinery Operators and Gaugers 51-8093	U.S.	20.58	21.55	17.68 - 24.21	42,810
	Montana	23.43	24.07	19.72 - 29.17	48,730
Separating, Filtering, Clarifying, Precipitating and Still Machine Setters, Operators and Tenders 51-9012	U.S.	13.61	13.23	10.50 - 16.07	28,310
	Montana	12.62	12.66	11.01 - 14.03	26,250
Crushing, Grinding and Polishing Machine Setters, Operators and Tenders 51-9021	U.S.	12.31	11.71	9.15 - 15.08	25,600
	Montana	13.54	14.55	10.47 - 15.77	28,160

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Grinding and Polishing Workers, Hand					
51-9022	U.S.	11.18	10.15	8.12 - 12.89	23,260
	Montana	8.46	8.00	6.88 - 9.26	17,600
Mixing and Blending Machine Setters, Operators and Tenders					
51-9023	U.S.	12.67	12.26	9.56 - 15.44	26,360
	Montana	13.97	11.85	9.61 - 18.97	29,050
Cutters and Trimmers, Hand					
51-9031	U.S.	10.94	9.78	7.66 - 12.52	22,750
	Montana	10.93	11.03	8.39 - 13.57	22,740
Furnace, Kiln, Oven, Drier and Kettle Operators and Tenders					
51-9051	U.S.	13.42	12.52	9.96 - 16.35	27,910
	Montana	11.89	11.23	8.50 - 14.87	24,730
Inspectors, Testers, Sorters, Samplers and Weighers					
51-9061	U.S.	13.05	11.68	8.94 - 16.04	27,140
	Montana	13.29	13.83	9.33 - 15.78	27,640
	Missoula County MSA	13.21	14.78	9.85 - 16.03	27,480
Jewelers and Precious Stone and Metal Workers					
51-9071	U.S.	12.67	11.19	8.39 - 15.34	26,360
	Montana	11.36	10.87	9.54 - 11.83	23,630
Dental Laboratory Technicians					
51-9081	U.S.	14.06	12.46	9.47 - 16.76	29,240
	Montana	25.97	30.64	16.01 - 37.72	54,010
	Cascade County MSA	11.92	10.98	8.81 - 14.68	24,780
	Missoula County MSA	14.72	13.93	8.23 - 15.93	30,610
Ophthalmic Laboratory Technicians					
51-9083	U.S.	10.42	9.49	7.76 - 11.79	21,680
	Montana	11.32	11.83	10.99 - 12.68	23,550
Packaging and Filling Machine Operators and Tenders					
51-9111	U.S.	9.99	9.01	7.20 - 12.13	20,790
	Montana	8.88	8.98	6.60 - 11.02	18,470
	Cascade County MSA	9.40	8.57	7.64 - 10.48	19,550
	Missoula County MSA	7.94	7.56	6.13 - 9.81	16,520
Coating, Painting and Spraying Machine Setters, Operators and Tenders					
51-9121	U.S.	11.46	10.86	8.80 - 13.35	23,840
	Montana	10.03	8.37	6.92 - 12.60	20,870
	Yellowstone County MSA	14.63	14.38	8.14 - 21.51	30,430
	Missoula County MSA	7.75	7.19	6.02 - 8.41	16,110

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Painting, Coating and Decorating Workers					
51-9123	U.S.	10.43	9.56	7.48 - 12.23	21,700
	Montana	8.50	7.73	6.43 - 9.11	17,690
	Cascade County MSA	6.75	6.51	5.86 - 7.69	14,040
	Missoula County MSA	11.29	8.73	7.54 - 15.65	23,480
Photographic Process Workers					
51-9131	U.S.	11.11	9.92	7.60 - 12.99	23,110
	Montana	11.69	10.05	8.31 - 13.61	24,320
Photographic Processing Machine Operators					
51-9132	U.S.	9.58	8.59	7.20 - 10.88	19,920
	Montana	9.08	8.06	6.66 - 10.39	18,890
	Yellowstone County MSA	9.31	8.74	7.52 - 11.20	19,360
Cementing and Gluing Machine Operators and Tenders					
51-9191	U.S.	10.69	10.23	8.01 - 12.83	22,240
	Montana	12.23	12.49	11.21 - 13.83	25,440
Helpers, Production Workers					
51-9198	U.S.	8.98	8.37	6.91 - 10.41	18,680
	Montana	7.33	6.51	5.83 - 7.85	15,250
	Yellowstone County MSA	8.74	7.94	7.31 - 11.01	18,180
Transportation and Material Moving Occupations					
First-Line Supervisors/Managers of Helpers, Laborers and Material Movers, Hand					
53-1021	U.S.	16.86	15.88	12.32 - 20.35	35,080
	Montana	11.62	10.15	9.00 - 14.61	24,170
	Yellowstone County MSA	11.69	10.70	9.60 - 14.14	24,320
First-Line Supervisors/Managers of Transportation and Material-Moving Machine and Vehicle Operators					
53-1031	U.S.	20.02	18.80	14.01 - 24.26	41,650
	Montana	19.82	17.33	12.34 - 25.59	41,230
	Yellowstone County MSA	20.38	16.32	14.38 - 29.35	42,390
	Missoula County MSA	16.72	12.91	11.75 - 19.96	34,770
Airline Pilots, Copilots and Flight Engineers					
53-2011	U.S.		annual wages only		98,280
	Montana		annual wages only		37,850
Commercial Pilots					
53-2012	U.S.		annual wages only		56,240
	Montana		annual wages only		34,530

indicates a wage greater than \$70 per hour or \$145,600 per year; * indicates a wage estimate is not available

1999 Montana Occupational Wage Survey

Occupational Title and Code	MSA or Area	Mean Wage	Median Wage	Middle Range	Annual Average
Ambulance Drivers and Attendants, Except Emergency Medical Technicians					
53-3011	U.S.	9.63	8.40	6.81 - 11.00	20,030
	Montana	6.54	6.00	5.74 - 7.50	13,600
Bus Drivers, Transit and Intercity					
53-3021	U.S.	12.72	11.67	8.85 - 16.18	26,450
	Montana	9.81	8.73	7.16 - 11.87	20,410
Bus Drivers, School					
53-3022	U.S.	9.83	9.57	6.87 - 12.07	20,460
	Montana	9.72	9.59	7.16 - 11.97	20,220
	Missoula County MSA	10.70	10.18	7.84 - 13.08	22,260
Driver/Sales Workers					
53-3031	U.S.	10.83	9.71	6.56 - 13.78	22,520
	Montana	11.12	11.20	8.22 - 13.52	23,130
	Yellowstone County MSA	10.14	10.00	6.72 - 13.01	21,090
	Cascade County MSA	10.87	11.82	6.42 - 13.28	22,600
	Missoula County MSA	11.55	11.81	8.96 - 14.19	24,030
Truck Drivers, Heavy and Tractor-Trailer					
53-3032	U.S.	15.34	14.74	11.61 - 18.48	31,900
	Montana	13.51	12.49	8.37 - 16.59	28,110
	Yellowstone County MSA	11.68	8.32	7.48 - 14.91	24,290
	Cascade County MSA	11.23	11.48	9.67 - 12.82	23,360
	Missoula County MSA	13.59	13.22	11.44 - 16.15	28,270
Truck Drivers, Light Or Delivery Services					
53-3033	U.S.	11.31	10.33	7.90 - 13.59	23,530
	Montana	8.87	8.21	6.77 - 10.30	18,450
	Yellowstone County MSA	7.27	7.30	6.30 - 8.22	15,110
	Cascade County MSA	10.54	10.86	7.45 - 13.48	21,930
	Missoula County MSA	9.23	8.57	6.80 - 10.45	19,200
Taxi Drivers and Chauffeurs					
53-3041	U.S.	8.75	7.89	6.47 - 10.22	18,200
	Montana	7.03	6.84	5.99 - 8.06	14,620
	Yellowstone County MSA	6.86	6.56	5.94 - 7.96	14,260
	Missoula County MSA	7.41	7.39	6.63 - 8.19	15,420
Locomotive Engineers					
53-4011	U.S.	23.10	21.19	17.50 - 26.97	48,050
	Montana	25.78	23.39	19.17 - 33.43	53,610
Rail Yard Engineers, Dinkey Operators and Hostlers					
53-4013	U.S.	17.43	17.44	14.70 - 19.89	36,260
	Montana	18.26	17.33	15.26 - 19.54	37,980

indicates a wage greater than \$70 per hour or \$145,600 per year; * indicates a wage estimate is not available

1999 Montana Occupational Wage Survey

Occupational Title and Code	MSA or Area	Mean Wage	Median Wage	Middle Range	Annual Average
Railroad Conductors and Yardmasters 53-4031	U.S.	21.24	19.44	17.16 - 24.21	44,180
	Montana	22.21	19.56	17.67 - 24.65	46,200
Parking Lot Attendants 53-6021	U.S.	7.38	6.89	6.07 - 8.26	15,350
	Montana	7.07	6.71	5.91 - 8.31	14,700
Service Station Attendants 53-6031	U.S.	7.58	7.11	6.12 - 8.38	15,770
	Montana	7.41	7.16	6.27 - 8.28	15,420
	Yellowstone County MSA	7.07	6.84	6.18 - 8.06	14,710
Transportation Inspectors 53-6051	U.S.	20.66	20.29	14.73 - 25.32	42,980
	Montana	24.86	23.85	19.63 - 30.06	51,710
Conveyor Operators and Tenders 53-7011	U.S.	11.67	11.08	8.67 - 13.82	24,280
	Montana	10.21	9.77	7.99 - 12.60	21,230
	Yellowstone County MSA	10.76	9.63	8.01 - 13.62	22,380
Crane and Tower Operators 53-7021	U.S.	16.21	15.29	12.27 - 19.21	33,710
	Montana	15.75	14.88	11.67 - 18.10	32,760
	Yellowstone County MSA	16.22	15.36	10.74 - 19.65	33,740
Excavating and Loading Machine and Dragline Operators 53-7032	U.S.	15.13	13.73	11.20 - 17.98	31,460
	Montana	15.64	15.08	12.55 - 19.04	32,540
Hoist and Winch Operators 53-7041	U.S.	15.03	14.18	10.60 - 18.15	31,260
	Montana	14.34	14.33	12.27 - 15.80	29,830
Industrial Truck and Tractor Operators 53-7051	U.S.	12.33	11.49	9.43 - 14.41	25,650
	Montana	11.73	12.06	9.23 - 13.73	24,400
	Yellowstone County MSA	12.19	11.81	8.83 - 15.20	25,350
	Missoula County MSA	10.59	11.29	7.99 - 13.07	22,030
Cleaners of Vehicles and Equipment 53-7061	U.S.	8.00	7.26	6.13 - 8.90	16,650
	Montana	7.33	6.32	5.79 - 7.80	15,250
	Yellowstone County MSA	7.52	6.58	5.92 - 8.10	15,650
	Cascade County MSA	7.02	7.18	6.18 - 7.96	14,590
	Missoula County MSA	6.97	6.68	5.98 - 7.82	14,510

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1999 Montana Occupational Wage Survey

Occupational Title and Code	MSA or Area	Mean Wage	Median Wage	Middle Range	Annual Average
Laborers and Freight, Stock and Material Movers, Hand					
53-7062	U.S.	9.50	8.75	7.04 - 10.99	19,750
	Montana	8.06	7.49	6.31 - 9.16	16,760
	Yellowstone County MSA	7.68	7.39	6.31 - 8.42	15,960
	Cascade County MSA	7.65	7.04	6.02 - 9.08	15,920
	Missoula County MSA	8.59	8.07	6.94 - 10.01	17,870
Machine Feeders and Offbearers					
53-7063	U.S.	10.04	9.40	7.59 - 11.67	20,890
	Montana	10.34	10.06	8.05 - 12.65	21,500
Packers and Packagers, Hand					
53-7064	U.S.	7.83	7.20	6.12 - 8.89	16,280
	Montana	7.58	6.70	5.91 - 8.55	15,780
	Yellowstone County MSA	6.85	6.52	5.88 - 7.85	14,250
	Cascade County MSA	7.02	6.45	5.83 - 7.97	14,590
	Missoula County MSA	7.15	6.64	5.88 - 8.38	14,870
Gas Compressor and Gas Pumping Station Operators					
53-7071	U.S.	17.26	17.87	11.97 - 21.88	35,900
	Montana	18.40	18.68	17.57 - 19.80	38,260
Wellhead Pumpers					
53-7073	U.S.	16.09	16.19	12.09 - 19.78	33,460
	Montana	17.04	17.91	16.58 - 19.20	35,430
Refuse and Recyclable Material Collectors					
53-7081	U.S.	12.03	11.19	8.40 - 14.94	25,020
	Montana	10.57	11.40	7.45 - 13.50	21,980
	Yellowstone County MSA	10.53	12.44	6.11 - 13.29	21,910

indicates a wage greater than \$70 per hour or \$145,600 per year; * indicates a wage estimate is not available

Information prepared by the Research and Analysis Bureau, Montana Department of Labor and Industry, Job Service Division, in cooperation with the Bureau of Labor Statistics (BLS) and Employment and Training Administration (ETA).

OCCUPATIONAL CODE, TITLE AND DESCRIPTION

Management Occupations

11-1011 Chief Executives

Determine and formulate policies and provide the overall direction of companies or private and public sector organizations within the guidelines set up by a board of directors or similar governing body. Plan, direct, or coordinate operational activities at the highest level of management with the help of subordinate executives and staff managers.

Illustrative Examples: School Superintendent, Chief Operating Officer

11-1021 General and Operations Managers

Plan, direct, or coordinate the operations of companies or public and private sector organizations. Duties and responsibilities include formulating policies, managing daily operations, and planning the use of materials and human resources, but are too diverse and general in nature to be classified in any one functional area of management or administration, such as personnel, purchasing, or administrative services. Include owners and managers who head small business establishments whose duties are primarily managerial. Exclude "First-Line Supervisors/Managers of Retail Sales Workers" (41-1011) and workers in other small establishments.

Illustrative Examples: Industrial Organization Manager, District Manager, Department Store General Manager

11-2011 Advertising and Promotions Managers

Plan and direct advertising policies and programs or produce collateral materials, such as posters, contests, coupons, or giveaways, to create extra interest in the purchase of a product or service for a department, an entire organization, or on an account basis.

Illustrative Examples: Campaign Director, Circulation Director, Media Director

11-2021 Marketing Managers

Determine the demand for products and services offered by a firm and its competitors and identify potential customers. Develop pricing strategies with the goal of maximizing the firm's profits or share of the market while ensuring the firm's customers are satisfied. Oversee product development or monitor trends that indicate the need for new products and services.

Illustrative Examples: Fashion Coordinator, Marketing Director

11-2022 Sales Managers

Direct the actual distribution or movement of a product or service to the customer. Coordinate sales distribution by establishing sales territories, quotas, and goals and establish training programs for sales representatives. Analyze sales statistics gathered by staff to determine sales potential and inventory requirements and monitor the preferences of customers.

Illustrative Examples: Director of Sales, Export Manager, Regional Sales Manager

11-2031 Public Relations Managers

Plan and direct public relations programs designed to create and maintain a favorable public image for employer or client; or if engaged in fundraising, plan and direct activities to solicit and maintain funds for special projects and nonprofit organizations.

Illustrative Examples: Fundraising Director, Public Information Director, Publicity Director

11-3011 Administrative Services Managers

Plan, direct, or coordinate supportive services of an organization, such as recordkeeping, mail distribution, telephone operator/receptionist, and other office support services. May oversee facilities planning and maintenance and custodial operations. Exclude "Purchasing Managers" (11-3061).

Illustrative Examples: Facilities Manager, Space Officer

11-3021 Computer and Information Systems Managers

Plan, direct, or coordinate activities in such fields as electronic data processing, information systems, systems analysis, and computer programming. Exclude "Computer Specialists" (15-1011 through 15-1099).

Illustrative Examples: Data Processing Manager, Computer Programming Manager, Data Systems Manager

11-3031 Financial Managers

Plan, direct, and coordinate accounting, investing, banking, insurance, securities, and other financial activities of a branch, office, or department of an establishment.

Illustrative Examples: Bank Director, Comptroller, Budget Director

11-3040 Human Resources Managers

Illustrative Example: Personnel Director

This broad occupation includes the following three detailed occupations:

11-3041 (SOC code only) Compensation and Benefits Managers: Plan, direct, or coordinate compensation and benefits activities and staff of an organization. Include job analysis and position description managers.

11-3042 (SOC code only) Training and Development Managers: Plan, direct, or coordinate the training and development activities and staff of an organization.

11-3049 (SOC code only) Human Resources Managers, All Other

11-3051 Industrial Production Managers

Plan, direct, or coordinate the work activities and resources necessary for manufacturing products in accordance with cost, quality, and quantity specifications.

Illustrative Examples: Factory Superintendent, Plant Manager, Quality Control Manager

11-3061 Purchasing Managers

Plan, direct, or coordinate the activities of buyers, purchasing officers, and related workers involved in purchasing materials, products, and services. Include wholesale or retail trade merchandising managers and procurement managers.

Illustrative Examples: Director of Purchasing, Merchandise Manager, Procurement Manager

11-3071 Transportation, Storage and Distribution Managers

Plan, direct, or coordinate transportation, storage, or distribution activities in accordance with governmental policies and regulations. Include logistics managers.

Illustrative Examples: Airport Manager, Schedule Planning Manager, Warehouse Manager

11-9021 Construction Managers

Plan, direct, coordinate, or budget, usually through subordinate supervisory personnel, activities concerned with the construction and maintenance of structures, facilities, and systems. Participate in the conceptual development of a construction project and oversee its organization, scheduling, and implementation. Include specialized construction fields, such as carpentry or plumbing. Include general superintendents, project managers, and constructors who manage, coordinate, and supervise the construction process.

Illustrative Examples: Masonry Contractor Administrator, Developer, General Contractor

11-9031 Education Administrators, Preschool and Child Care Center/Program

Plan, direct, or coordinate the academic and nonacademic activities of preschool and child care centers or programs. Exclude "Preschool Teachers" (25-2011).

Illustrative Examples: Director of Child Care Center, Head Start Director

11-9032 Education Administrators, Elementary and Secondary School

Plan, direct, or coordinate the academic, clerical, or auxiliary activities of public or private elementary or secondary level schools.

Illustrative Examples: Director of Physical Education, Curriculum Director, School Principal

11-9033 Education Administrators, Postsecondary

Plan, direct, or coordinate research, instructional, student administration and services, and other educational activities at postsecondary institutions, including universities, colleges, and junior and community colleges.

Illustrative Examples: Director of Student Affairs, Dean, Registrar

11-9041 Engineering Managers

Plan, direct, or coordinate activities in such fields as architecture and engineering or research and development in these fields. Exclude "Natural Sciences Managers" (11-9121).

Illustrative Examples: Engineering Research Manager, Safety Director, Technical Director

11-9051 Food Service Managers

Plan, direct, or coordinate activities of an organization or department that serves food and beverages.

Illustrative Examples: Banquet Director, Restaurant Manager, Catering Manager

11-9081 Lodging Managers

Plan, direct, or coordinate activities of an organization or department that provides lodging and other accommodations. Exclude "Food Service Managers" (11-9051) in lodging establishments.

Illustrative Examples: Director of Housing, Innkeeper, Hotel Manager

11-9111 Medical and Health Services Managers

Plan, direct, or coordinate medicine and health services in hospitals, clinics, managed care organizations, public health agencies, or similar organizations.

Illustrative Examples: Director of Occupational Therapy, Medical Records Administrator, Public Health Administrator

11-9121 Natural Sciences Managers

Plan, direct, or coordinate activities in such fields as life sciences, physical sciences, mathematics, statistics, and research and development in these fields. Exclude "Engineering Managers" (11-9041) and "Computer and Information Systems Managers" (11-3021).

Illustrative Examples: Geophysical Manager, Research and Development Director, Wildlife Manager

11-9131 Postmasters and Mail Superintendents

Direct and coordinate operational, administrative, management, and supportive services of a U.S. post office; or coordinate activities of workers engaged in postal and related work in assigned post office.

11-9141 Property, Real Estate and Community Association Managers

Plan, direct, or coordinate selling, buying, leasing, or governance activities of commercial, industrial, or residential real estate properties. Include managers of homeowner and condominium associations, rented or leased housing units, buildings, or land (including rights-of-way).

Illustrative Examples: Condominium Association Manager, Trailer Park Manager

11-9151 Social and Community Service Managers

Plan, organize, or coordinate the activities of a social service program or community outreach organization. Oversee the program or organization's budget and policies regarding participant involvement, program requirements, and benefits. Work may involve directing social workers, counselors, or probation officers.

Illustrative Examples: Child Welfare Director, Youth Program Director, Director of Casework Services

Business and Financial Operations Occupations

13-1021 Purchasing Agents and Buyers, Farm Products

Purchase farm products either for further processing or resale. Include Christmas tree contractors, grain brokers and market operators, grain buyers, and tobacco buyers.

Illustrative Examples: Cotton Broker, Livestock Buyer, Tobacco Buyer

13-1022 Wholesale and Retail Buyers, Except Farm Products

Buy merchandise or commodities, other than farm products, for resale to consumers at the wholesale or retail level, including both durable and nondurable goods. Analyze past buying trends, sales records, price, and quality of merchandise to determine value and yield. Select, order, and authorize payment for merchandise according to contractual agreements. May conduct meetings with sales personnel and introduce new products. Include assistant buyers.

Illustrative Examples: Importer, Merchandiser, Wholesale Jobber

13-1023 Purchasing Agents, Except Wholesale, Retail and Farm Products

Purchase machinery, equipment, tools, parts, supplies, or services necessary for the operation of an establishment. Purchase raw or semifinished materials for manufacturing. Include contract specialists, field contractors, purchasers, price analysts, tooling coordinators, and media buyers. Exclude "Purchasing Agents and Buyers, Farm Products" (13-1021) and "Wholesale and Retail Buyers, Except Farm Products" (13-1022).

Illustrative Examples: Fuel Buyer, Lumber Buyer, Radio Time Buyer

13-1031 Claims Adjusters, Examiners and Investigators

Review settled claims to determine that payments and settlements have been made in accordance with company practices and procedures, ensuring that proper methods have been followed. Report overpayments, underpayments, and other irregularities. Confer with legal counsel on claims requiring litigation.

Illustrative Examples: Health Insurance Adjuster, Arson Investigator, Claims Agent

13-1041 Compliance Officers, Except Agriculture, Construction, Health and Safety, and Transportation

Examine, evaluate, and investigate eligibility for or conformity with laws and regulations governing contract compliance of licenses and permits, and other compliance and enforcement inspection activities not classified elsewhere. Exclude "Tax Examiners, Collectors and Revenue Agents" (13-2081) and "Financial Examiners" (13-2061).

Illustrative Examples: Truant Officer, Coroner, Inspector of Weights and Measures

13-1051 Cost Estimators

Prepare cost estimates for product manufacturing, construction projects, or services to aid management in bidding on or determining price of product or service. May specialize according to particular service performed or type of product manufactured.

Illustrative Examples: Construction Estimator, Crating and Moving Estimator, Job Estimator

13-1061 Emergency Management Specialists

Coordinate disaster response or crisis management activities, provide disaster preparedness training, and prepare emergency plans and procedures for natural (e.g., hurricanes, floods, earthquakes), wartime, or technological (e.g., nuclear power plant emergencies, hazardous materials spills) disasters or hostage situations.

Illustrative Examples: Director of Civil Defense, Public Safety Director

13-1072 Compensation, Benefits and Job Analysis Specialists

Conduct programs of compensation and benefits and job analysis for employer. May specialize in specific areas, such as position classification and pension programs.

Illustrative Examples: Occupational Analyst, Relocation Director, Wage Conciliator

13-1073 Training and Development Specialists

Conduct training and development programs for employees.

Illustrative Examples: Training Coordinator, Workforce Development Specialist, Supervisor, Training Personnel

13-1111 Management Analysts

Conduct organizational studies and evaluations, design systems and procedures, conduct work simplifications and measurement studies, and prepare operations and procedures manuals to assist management in operating more efficiently and effectively. Include program analysts and management consultants. Exclude "Computer Systems Analysts" (15-1051) and "Operations Research Analysts" (15-2031).

Illustrative Examples: Business Consultant, Industrial Analyst

13-1121 Meeting and Convention Planners

Coordinate activities of staff and convention personnel to make arrangements for group meetings and conventions.

Illustrative Examples: Conference Planner, Conference Service Coordinator, Convention Manager

13-2011 Accountants and Auditors

Examine, analyze, and interpret accounting records for the purpose of giving advice or preparing statements. Install or advise on systems of recording costs or other financial and budgetary data.

Illustrative Examples: Bursar, Certified Public Accountant, Tax Accountant

13-2021 Appraisers and Assessors of Real Estate

Appraise real property to determine its fair value. May assess taxes in accordance with prescribed schedules.

Illustrative Examples: Building Appraiser, County Assessor, Property Evaluator

13-2031 Budget Analysts

Examine budget estimates for completeness, accuracy, and conformance with procedures and regulations. Analyze budgeting and accounting reports for the purpose of maintaining expenditure controls.

Illustrative Examples: Budget Examiner, Fiscal Agent, Fiscal Officer

13-2041 Credit Analysts

Analyze current credit data and financial statements of individuals or firms to determine the degree of risk involved in extending credit or lending money. Prepare reports with this credit information for use in decision making.

Illustrative Examples: Credit Negotiator, Escrow Representative, Factorer

13-2051 Financial Analysts

Conduct quantitative analyses of information affecting investment programs of public or private institutions.

Illustrative Examples: Bond Analyst, Investment Analyst, Securities Consultant

13-2052 Personal Financial Advisors

Advise clients on financial plans utilizing knowledge of tax and investment strategies, securities, insurance, pension plans, and real estate. Duties include assessing clients' assets, liabilities, cash flow, insurance coverage, tax status, and financial objectives to establish investment strategies.

Illustrative Examples: Budget Counselor, Financial Planner, Estate Planner

13-2053 Insurance Underwriters

Review individual applications for insurance to evaluate degree of risk involved and determine acceptance of applications.

Illustrative Examples: Bond Underwriter, Insurance Analyst

13-2072 Loan Officers

Evaluate, authorize, or recommend approval of commercial, real estate, or credit loans. Advise borrowers on financial status and methods of payments. Include mortgage loan officers and agents, collection analysts, loan servicing officers, and loan underwriters.

Illustrative Examples: Loan Reviewer, Escrow Officer, Mortgage Consultant

13-2081 Tax Examiners, Collectors and Revenue Agents

Determine tax liability or collect taxes from individuals or business firms according to prescribed laws and regulations.

Illustrative Examples: Tax Investigator, Revenue Agent, Tax Auditor

13-2082 Tax Preparers

Prepare tax returns for individuals or small businesses but do not have the background or responsibilities of an accredited or certified public accountant.

Illustrative Examples: Income Tax Advisor, Income Tax Consultant, Tax Specialist

Computer and Mathematical Occupations

15-1021 Computer Programmers

Convert project specifications and statements of problems and procedures to detailed logical flowcharts for coding into computer language. Develop and write computer programs to store, locate, and retrieve specific documents, data, and information. May program web sites.

Illustrative Examples: Computer Programmer Aide, Mainframe Programmer, Systems Programmer

15-1031 Computer Software Engineers, Applications

Develop, create, and modify general computer applications software or specialized utility programs. Analyze user needs and develop software solutions. Design software or customize software for client use with the aim of optimizing operational efficiency. May analyze and design databases within an application area, working individually or coordinating database development as part of a team. Exclude "Computer Hardware Engineers" (17-2061).

Illustrative Examples: Applications Developer, Programmer Analyst, Software Designer

15-1032 Computer Software Engineers, Systems Software

Research, design, develop, and test operating systems-level software, compilers, and network distribution software for medical, industrial, military, communications, aerospace, business, scientific, and general computing applications. Set operational specifications and formulate and analyze software requirements. Apply principles and techniques of computer science, engineering, and mathematical analysis.

Illustrative Example: EDP Systems Engineers

15-1041 Computer Support Specialists

Provide technical assistance to computer system users. Answer questions or resolve computer problems for clients in person, via telephone or from remote location. May provide assistance concerning the use of computer hardware and software, including printing, installation, word processing, electronic mail, and operating systems. Exclude "Network and Computer Systems Administrators" (15-1071).

Illustrative Examples: Customer Support Analyst, Help Desk Technician, Workstation Support Specialist

15-1051 Computer Systems Analysts

Analyze science, engineering, business, and all other data processing problems for application to electronic data processing systems. Analyze user requirements, procedures, and problems to automate or improve existing systems and review computer system capabilities, work flow, and scheduling limitations. May analyze or recommend commercially available software. Exclude persons working primarily as "Engineers" (17-2011 through 17-2199), "Mathematicians" (15-2021), or "Scientists" (19-1011 through 19-3099). May supervise computer programmers.

Illustrative Examples: Health Systems Computer Analyst, Data Processing Systems Project Planner, Information Systems Consultant

15-1061 Database Administrators

Coordinate changes to computer databases, test and implement the database applying knowledge of database management systems. May plan, coordinate, and implement security measures to safeguard computer databases.

Illustrative Examples: Automatic Data Processing Planner, Database Design Analyst, Database Security Administrator

15-1071 Network and Computer Systems Administrators

Install, configure, and support an organization's local area network (LAN), wide area network (WAN), and Internet system or a segment of a network system. Maintain network hardware and software. Monitor network to ensure network availability to all system users and perform necessary maintenance to support network availability. May supervise other network support and client server specialists and plan, coordinate, and implement network security measures. Exclude "Computer Support Specialists" (15-1041).

Illustrative Examples: LAN/WAN Administrator, Network Control Operator, Network Security Administrator

15-1081 Network Systems and Data Communications Analysts

Analyze, design, test, and evaluate network systems, such as local area networks (LAN), wide area networks (WAN), Internet, intranet, and other data communications systems. Perform network modeling, analysis, and planning. Research and recommend network and data communications hardware and software. Include telecommunications specialists who deal with the interfacing of computer and communications equipment. May supervise computer programmers.

Illustrative Examples: Internet Developer, Systems Integrator, Webmaster

15-2031 Operations Research Analysts

Formulate and apply mathematical modeling and other optimizing methods using a computer to develop and interpret information that assists management with decision making, policy formulation, or other managerial functions. May develop related software, service, or products. Frequently concentrates on collecting and analyzing data and developing decision support software. May develop and supply optimal time, cost, or logistics networks for program evaluation, review, or implementation.

Illustrative Examples: Procedure Analyst, Method Consultant, Standards Analyst

15-2041 Statisticians

Engage in the development of mathematical theory or apply statistical theory and methods to collect, organize, interpret, and summarize numerical data to provide usable information. May specialize in fields, such as biostatistics, agricultural statistics, business statistics, economic statistics, or other fields. Include mathematical statisticians.

Illustrative Examples: Biometrician, Sampling Expert, Statistical Analyst

Architecture and Engineering Occupations

17-1011 Architects, Except Landscape and Naval

Plan and design structures, such as private residences, office buildings, theaters, factories, and other structural property.

Illustrative Examples: Architectural Designer, Building Consultant, Site Planner

17-1021 Cartographers and Photogrammetrists

Collect, analyze, and interpret geographic information provided by geodetic surveys, aerial photographs, and satellite data. Research, study, and prepare maps and other spatial data in digital or graphic form for legal, social, political, educational, and design purposes. May work with Geographic Information Systems (GIS). May design and evaluate algorithms, data structures, and user interfaces for GIS and mapping systems.

Illustrative Examples: Field Map Editor, Mapper, Topographer

17-1022 Surveyors

Make exact measurements and determine property boundaries. Provide data relevant to the shape, contour, gravitation, location, elevation, or dimension of land or land features on or near the earth's surface for engineering, mapmaking, mining, land evaluation, construction, and other purposes.

Illustrative Examples: Geodetic Surveyor, Land Examiner, Mineral Surveyor

17-2041 Chemical Engineers

Design chemical plant equipment and devise processes for manufacturing chemicals and products, such as gasoline, synthetic rubber, plastics, detergents, cement, paper, and pulp, by applying principles and technology of chemistry, physics, and engineering.

Illustrative Examples: Absorption and Adsorption Engineer, Explosives Engineer, Fuels Engineer

17-2051 Civil Engineers

Perform engineering duties in planning, designing, and overseeing construction and maintenance of building structures, and facilities, such as roads, railroads, airports, bridges, harbors, channels, dams, irrigation projects, pipelines, power plants, water and sewage systems, and waste disposal units. Include architectural, structural, traffic, ocean, and geo-technical engineers. Exclude "Hydrologists" (19-2043).

Illustrative Examples: Bridge Engineer, Construction Engineer, Concrete Engineer

17-2071 Electrical Engineers

Design, develop, test, or supervise the manufacturing and installation of electrical equipment, components, or systems for commercial, industrial, military, or scientific use. Exclude "Computer Hardware Engineers" (17-2061).

Illustrative Examples: Power Distribution Engineer, Illuminating Engineer, Relay Engineer

17-2072 Electronics Engineers, Except Computer

Research, design, develop, and test electronic components and systems for commercial, industrial, military, or scientific use utilizing knowledge of electronic theory and materials properties. Design electronic circuits and components for use in fields such as telecommunications, aerospace guidance and propulsion control, acoustics, or instruments and controls. Exclude "Computer Hardware Engineers" (17-2061).

Illustrative Examples: Communications Engineer, Circuit Design Engineer, Guidance and Control Systems Engineer

17-2081 Environmental Engineers

Design, plan, or perform engineering duties in the prevention, control, and remediation of environmental health hazards utilizing various engineering disciplines. Work may include waste treatment, site remediation, or pollution control technology.

Illustrative Examples: Soil Engineer, Industrial Hygiene Engineer, Pollution Control Engineer

17-2111 Health and Safety Engineers, Except Mining Safety Engineers and Inspectors

Promote work site or product safety by applying knowledge of industrial processes, mechanics, chemistry, psychology, and industrial health and safety laws. Include industrial product safety engineers.

Illustrative Examples: Fire Protection Engineer, Industrial Health Engineer, Product Safety Engineer

17-2112 Industrial Engineers

Design, develop, test, and evaluate integrated systems for managing industrial production processes including human work factors, quality control, inventory control, logistics and material flow, cost analysis, and production coordination.

Exclude "Health and Safety Engineers, Except Mining Safety Engineers and Inspectors" (17-2111).

Illustrative Examples: Packaging Engineer, Time Study Engineer, Plant Engineer

17-2141 Mechanical Engineers

Perform engineering duties in planning and designing tools, engines, machines, and other mechanically functioning equipment. Oversee installation, operation, maintenance, and repair of such equipment as centralized heat, gas, water, and steam systems.

Illustrative Examples: Combustion Engineer, Plant Equipment Engineer, Hydraulic Engineer

17-2151 Mining and Geological Engineers, Including Mining Safety Engineers

Determine the location and plan the extraction of coal, metallic ores, nonmetallic minerals, and building materials, such as stone and gravel. Work involves conducting preliminary surveys of deposits or undeveloped mines and planning their development; examining deposits or mines to determine whether they can be worked at a profit; making geological and topographical surveys; evolving methods of mining best suited to character, type, and size of deposits; and supervising mining operations.

Illustrative Examples: Exploration Engineer, Mineral Engineer, Mine Equipment Design Engineer

17-2171 Petroleum Engineers

Devise methods to improve oil and gas well production and determine the need for new or modified tool designs. Oversee drilling and offer technical advice to achieve economical and satisfactory progress.

Illustrative Examples: Drilling Engineer, Natural Gas Engineer, Oil Well Surveying Engineer

17-3011 Architectural and Civil Drafters

Prepare detailed drawings of architectural and structural features of buildings or drawings and topographical relief maps used in civil engineering projects, such as highways, bridges, and public works. Utilize knowledge of building materials, engineering practices, and mathematics to complete drawings.

Illustrative Example: Structural Drafter

17-3012 Electrical and Electronics Drafters

Prepare wiring diagrams, circuit board assembly diagrams, and layout drawings used for manufacture, installation, and repair of electrical equipment in factories, power plants, and buildings.

17-3013 Mechanical Drafters

Prepare detailed working diagrams of machinery and mechanical devices, including dimensions, fastening methods, and other engineering information.

Illustrative Examples: Die Designer, Aeronautical Drafter

17-3023 Electrical and Electronic Engineering Technicians

Apply electrical and electronic theory and related knowledge, usually under the direction of engineering staff, to design, build, repair, calibrate, and modify electrical components, circuitry, controls, and machinery for subsequent evaluation and use by engineering staff in making engineering design decisions. Exclude "Broadcast Technicians" (27-4012).

Illustrative Examples: Calibration Laboratory Technician, Semiconductor Development Technician, Instrumentation Technician

17-3024 Electro-Mechanical Technicians

Operate, test, and maintain unmanned, automated, servo-mechanical, or electromechanical equipment. May operate unmanned submarines, aircraft, or other equipment at work sites, such as oil rigs, deep ocean exploration, or hazardous waste removal. May assist engineers in testing and designing robotics equipment.

17-3025 Environmental Engineering Technicians

Apply theory and principles of environmental engineering to modify, test, and operate equipment and devices used in the prevention, control, and remediation of environmental pollution, including waste treatment and site remediation. May assist in the development of environmental pollution remediation devices under direction of engineer.

Illustrative Examples: Air Analysis Technician, Soil Technician

17-3026 Industrial Engineering Technicians

Apply engineering theory and principles to problems of industrial layout or manufacturing production, usually under the direction of engineering staff. May study and record time, motion, method, and speed involved in performance of production, maintenance, clerical, and other worker operations for such purposes as establishing standard production rates or improving efficiency.

Illustrative Examples: Methods Study Analyst, Quality Control Technician, Time Study Analyst

17-3027 Mechanical Engineering Technicians

Apply theory and principles of mechanical engineering to modify, develop, and test machinery and equipment under direction of engineering staff or physical scientists.

Illustrative Examples: Heat Transfer Technician, Optomechanical Technician, Tool Analyst

17-3031 Surveying and Mapping Technicians

Perform surveying and mapping duties, usually under the direction of a surveyor, cartographer, or photogrammetrist to obtain data used for construction, mapmaking, boundary location, mining, or other purposes. May calculate mapmaking information and create maps from source data, such as surveying notes, aerial photography, satellite data, or other maps to show topographical features, political boundaries, and other features. May verify accuracy and completeness of topographical maps. Exclude "Surveyors" (17-1022), "Cartographers and Photogrammetrists" (17-1021), and "Geoscientists, Except Hydrologists and Geographers" (19-2042).

Illustrative Examples: Cartographic Technician, Map Drafter, Stereo Map Plotter Operator

Life, Physical and Social Science Occupations

19-1010 Agricultural and Food Scientists

Illustrative Examples: Dairy Scientist, Food Scientist, Agronomist, Plant Pathologist, Pomologist

This broad occupation includes the following three detailed occupations:

19-1011 (SOC code only) Animal Scientists: Conduct research in the genetics, nutrition, reproduction, growth, and development of domestic farm animals.

19-1012 (SOC code only) Food Scientists and Technologists: Use chemistry, microbiology, engineering, and other sciences to study the principles underlying the processing and deterioration of foods; analyze food content to determine levels of vitamins, fat, sugar, and protein; discover new food sources; research ways to make processed foods safe, palatable, and healthful; and apply food science knowledge to determine best ways to process, package, preserve, store, and distribute food.

19-1013 (SOC code only) Soil and Plant Scientists: Conduct research in breeding, physiology, production, yield, and management of crops and agricultural plants, their growth in soils, and control of pests; or study the chemical, physical, biological, and mineralogical composition of soils as they relate to plant or crop growth. May classify and map soils and investigate effects of alternative practices on soil and crop productivity.

19-1022 Microbiologists

Investigate the growth, structure, development, and other characteristics of microscopic organisms, such as bacteria, algae, or fungi. Include medical microbiologists who study the relationship between organisms and disease or the effects of antibiotics on microorganisms.

Illustrative Examples: Bacteriologist, Cytologist, Virologist

19-1023 Zoologists and Wildlife Biologists

Study the origins, behavior, diseases, genetics, and life processes of animals and wildlife. May specialize in wildlife research and management, including the collection and analysis of biological data to determine the environmental effects of present and potential use of land and water areas.

Illustrative Examples: Ecologist, Herpetologist, Ornithologist

19-1031 Conservation Scientists

Manage, improve, and protect natural resources to maximize their use without damaging the environment. May conduct soil surveys and develop plans to eliminate soil erosion or to protect rangelands from fire and rodent damage. May instruct farmers, agricultural production managers, or ranchers in best ways to use crop rotation, contour plowing, or terracing to conserve soil and water; in the number and kind of livestock and forage plants best suited to particular ranges; and in range and farm improvements, such as fencing and reservoirs for stock watering. Exclude "Zoologists and Wildlife Biologists" (19-1023) and "Foresters" (19-1032).

Illustrative Examples: Range Manager, Conservation Officer

19-1032 Foresters

Manage forested lands for economic, recreational, and conservation purposes. May inventory the type, amount, and location of standing timber, appraise the timber's worth, negotiate the purchase, and draw up contracts for procurement. May determine how to conserve wildlife habitats, creek beds, water quality, and soil stability, and how best to comply with environmental regulations. May devise plans for planting and growing new trees, monitor trees for healthy growth, and determine the best time for harvesting. Develop forest management plans for public and privately owned forested lands.

Illustrative Examples: Forest Ecologist, Timber Management Specialist

19-2021 Atmospheric and Space Scientists

Investigate atmospheric phenomena and interpret meteorological data gathered by surface and air stations, satellites, and radar to prepare reports and forecasts for public and other uses. Include weather analysts and forecasters whose functions require the detailed knowledge of a meteorologist.

Illustrative Examples: Climatologist, Meteorologist, Weather Forecaster

19-2031 Chemists

Conduct qualitative and quantitative chemical analyses or chemical experiments in laboratories for quality or process control or to develop new products or knowledge. Exclude "Geoscientists, Except Hydrologists and Geographers" (19-2042) and "Biochemists and Biophysicists" (19-1021).

Illustrative Examples: Inorganic Chemist, Chemical Analyst

19-2041 Environmental Scientists and Specialists, Including Health

Conduct research or perform investigation for the purpose of identifying, abating, or eliminating sources of pollutants or hazards that affect either the environment or the health of the population. Utilizing knowledge of various scientific disciplines may collect, synthesize, study, report, and take action based on data derived from measurements or observations of air, food, soil, water, and other sources. Exclude "Zoologists and Wildlife Biologists" (19-1023), "Conservation Scientists" (19-1031), "Forest and Conservation Technicians" (19-4093), "Fish and Game Wardens" (33-3031), and "Forest and Conservation Workers" (45-4011).

Illustrative Examples: Environmental Analyst, Water Pollution Specialist

19-2042 Geoscientists, Except Hydrologists and Geographers

Study the composition, structure, and other physical aspects of the earth. May use geological, physics, and mathematics knowledge in exploration for oil, gas, minerals, or underground water; or in waste disposal, land reclamation, or other environmental problems. May study the earth's internal composition, atmospheres, oceans, and its magnetic, electrical, and gravitational forces. Include mineralogists, crystallographers, paleontologists, stratigraphers, geodesists, and seismologists.

Illustrative Examples: Oceanographer, Paleontologist, Seismologist

19-2043 Hydrologists

Research the distribution, circulation, and physical properties of underground and surface waters; study the form and intensity of precipitation, its rate of infiltration into the soil, movement through the earth, and its return to the ocean and atmosphere.

Illustrative Example: Hydrogeologist

19-3021 Market Research Analysts

Research market conditions in local, regional, or national areas to determine potential sales of a product or service. May gather information on competitors, prices, sales, and methods of marketing and distribution. May use survey results to create a marketing campaign based on regional preferences and buying habits.

Illustrative Examples: Advertising Analyst, Marketing Consultant, Marketing Forecaster

19-3022 Survey Researchers

Design or conduct surveys. May supervise interviewers who conduct the survey in person or over the telephone. May present survey results to client. Exclude "Statisticians" (15-2041), "Economists" (19-3011), and "Market Research Analysts" (19-3021).

Illustrative Example: Pollster

19-3031 Clinical, Counseling and School Psychologists

Diagnose and treat mental disorders; learning disabilities; and cognitive, behavioral, and emotional problems using individual, child, family, and group therapies. May design and implement behavior modification programs.

Illustrative Examples: Vocational Psychologist, Child Psychologist

19-3051 Urban and Regional Planners

Develop comprehensive plans and programs for use of land and physical facilities of local jurisdictions, such as towns, cities, counties, and metropolitan areas.

Illustrative Example: City Planner

19-3091 Anthropologists and Archeologists

Study the origin, development, and behavior of humans. May study the way of life, language, or physical characteristics of existing people in various parts of the world. May engage in systematic recovery and examination of material evidence, such as tools or pottery remaining from past human cultures, in order to determine the history, customs, and living habits of earlier civilizations.

Illustrative Example: Political Anthropologist

19-3093 Historians

Research, analyze, record, and interpret the past as recorded in sources, such as government and institutional records, newspapers and other periodicals, photographs, interviews, films, and unpublished manuscripts, such as personal diaries and letters.

Illustrative Examples: Genealogist, Historical Society Director

19-4021 Biological Technicians

Assist biological and medical scientists in laboratories. Set up, operate, and maintain laboratory instruments and equipment, monitor experiments, make observations, and calculate and record results. May analyze organic substances, such as blood, food, and drugs.

Illustrative Examples: Biotechnologist, Wildlife Technician Specimen Technician

19-4041 Geological and Petroleum Technicians

Assist scientists in the use of electrical, sonic, or nuclear measuring instruments in both laboratory and production activities to obtain data indicating potential sources of metallic ore, gas, or petroleum. Analyze mud and drill cuttings. Chart pressure, temperature, and other characteristics of wells or bore holes. Investigate and collect information leading to the possible discovery of new oil fields.

Illustrative Examples: Field Scout, Crude Tester, Seismic Observer

19-4091 Environmental Science and Protection Technicians, Including Health

Performs laboratory and field tests to monitor the environment and investigate sources of pollution, including those that affect health. Under direction of an environmental scientist or specialist, may collect samples of gases, soil, water, and other materials for testing and take corrective actions as assigned.

Illustrative Example: Pollution Control Technician

Community and Social Service Occupations

21-1011 Substance Abuse and Behavioral Disorder Counselors

Counsel and advise individuals with alcohol, tobacco, drug, or other problems, such as gambling and eating disorders. May counsel individuals, families, or groups or engage in prevention programs. Exclude "Social Workers" (21-1021 through 21-1029), "Psychologists" (19-3031 through 19-3039), and "Mental Health Counselors" (21-1014) providing these services.

Illustrative Examples: Addiction Counselor, Chemical Dependency Counselor, Drug Counselor

21-1012 Educational, Vocational and School Counselors

Counsel individuals and provide group educational and vocational guidance services.

Illustrative Examples: Curriculum Counselor, Guidance Counselor, Educational Adviser

21-1014 Mental Health Counselors

Counsel with emphasis on prevention. Work with individuals and groups to promote optimum mental health. May help individuals deal with addictions and substance abuse; family, parenting, and marital problems; suicide; stress management; problems with self-esteem; and issues associated with aging and mental and emotional health. Exclude "Social Workers" (21-1021 through 21-1029), "Psychiatrists" (29-1066), and "Psychologists" (19-3031 through 19-3039).

21-1015 Rehabilitation Counselors

Counsel individuals to maximize the independence and employability of persons coping with personal, social, and vocational difficulties that result from birth defects, illness, disease, accidents, or the stress of daily life. Coordinate activities for residents of care and treatment facilities. Assess client needs and design and implement rehabilitation programs that may include personal and vocational counseling, training, and job placement.

Illustrative Examples: Coordinator of Rehabilitation Services, Homemaking Rehabilitation Consultant

21-1021 Child, Family and School Social Workers

Provide social services and assistance to improve the social and psychological functioning of children and their families and to maximize the family well-being and the academic functioning of children. May assist single parents, arrange adoptions, and find foster homes for abandoned or abused children. In schools, they address such problems as teenage pregnancy, misbehavior, and truancy. May also advise teachers on how to deal with problem children.

Illustrative Examples: Adoption Agent, Child Abuse Worker, Foster Care Worker

21-1022 Medical and Public Health Social Workers

Provide persons, families, or vulnerable populations with the psychosocial support needed to cope with chronic, acute, or terminal illnesses, such as Alzheimer's, cancer, or AIDS. Services include advising family caregivers, providing patient education and counseling, and making necessary referrals for other social services.

Illustrative Examples: Bereavement Counselor, Hospice Social Worker, Medical Caseworker

21-1023 Mental Health and Substance Abuse Social Workers

Assess and treat individuals with mental, emotional, or substance abuse problems, including abuse of alcohol, tobacco, and/or other drugs. Activities may include individual and group therapy, crisis intervention, case management, client advocacy, prevention, and education.

Illustrative Examples: Community Mental Health Worker, Psychiatric Social Worker

21-1091 Health Educators

Promote, maintain, and improve individual and community health by assisting individuals and communities to adopt healthy behaviors. Collect and analyze data to identify community needs prior to planning, implementing, monitoring, and evaluating programs designed to encourage healthy lifestyles, policies and environments. May also serve as a resource to assist individuals, other professionals, or the community, and may administer fiscal resources for health education programs.

Illustrative Examples: Public Health Advisor, Public Health Representative

21-1093 Social and Human Service Assistants

Assist professionals from a wide variety of fields, such as psychology, rehabilitation, or social work, to provide client services, as well as support for families. May assist clients in identifying available benefits and social and community services and help clients obtain them. May assist social workers with developing, organizing, and conducting programs to prevent and resolve problems relevant to substance abuse, human relationships, rehabilitation, or adult day care. Exclude "Rehabilitation Counselors" (21-1015), "Personal and Home Care Aides" (39-9021), "Eligibility Interviewers, Government Programs" (43-4061), and "Psychiatric Technicians" (29-2053).

Illustrative Examples: Case Aide, Home Visitor, Human Services Worker

21-2011 Clergy

Conduct religious worship and perform other spiritual functions associated with beliefs and practices of religious faith or denomination. Provide spiritual and moral guidance and assistance to members.

Illustrative Examples: Bishop, Parish Priest, Rabbi

21-2021 Directors, Religious Activities and Education

Direct and coordinate activities of a denominational group to meet religious needs of students. Plan, direct, or coordinate church school programs designed to promote religious education among church membership. May provide counseling and guidance relative to marital, health, financial, and religious problems.

Illustrative Examples: Director of Religious Education, Minister of Education, Youth Director

Legal Occupations

23-1011 Lawyers

Represent clients in criminal and civil litigation and other legal proceedings, draw up legal documents, and manage or advise clients on legal transactions. May specialize in a single area or may practice broadly in many areas of law.

Illustrative Examples: Attorney, Real Estate Attorney, Corporate Counsel

23-1021 Administrative Law Judges, Adjudicators and Hearing Officers

Conduct hearings to decide or recommend decisions on claims concerning government programs or other government-related matters and prepare decisions. Determine penalties or the existence and the amount of liability, or recommend the acceptance or rejection of claims, or compromise settlements.

Illustrative Examples: Adjudicator, Traffic Court Referee

23-1023 Judges, Magistrate Judges and Magistrates

Arbitrate, advise, adjudicate, or administer justice in a court of law. May sentence defendant in criminal cases according to government statutes. May determine liability of defendant in civil cases. May issue marriage licenses and perform wedding ceremonies.

Illustrative Examples: Circuit Court Judge, Jurist, Justice

23-2011 Paralegals and Legal Assistants

Assist lawyers by researching legal precedent, investigating facts, or preparing legal documents. Conduct research to support a legal proceeding, to formulate a defense, or to initiate legal action.

Illustrative Examples: Legal Assistant, Legal Investigator

23-2091 Court Reporters

Use verbatim methods and equipment to capture, store, retrieve, and transcribe pretrial and trial proceedings or other information. Include stenocaptioners who operate computerized stenographic captioning equipment to provide captions of live or prerecorded broadcasts for hearing-impaired viewers.

Illustrative Examples: Court Transcriber, Stenocaptioner, Mask Reporter

23-2092 Law Clerks

Assist lawyers or judges by researching or preparing legal documents. May meet with clients or assist lawyers and judges in court. Exclude "Lawyers" (23-1011) and "Paralegals and Legal Assistants" (23-2011).

Illustrative Example: Legal Clerk

23-2093 Title Examiners, Abstractors and Searchers

Search real estate records, examine titles, or summarize pertinent legal or insurance details for a variety of purposes. May compile lists of mortgages, contracts, and other instruments pertaining to titles by searching public and private records for law firms, real estate agencies, or title insurance companies.

Illustrative Examples: Abstract Clerk, Escrow Officer, Lien Searcher

Education, Training and Library Occupations

25-1011 Business Teachers, Postsecondary

Teach courses in business administration and management, such as accounting, finance, human resources, labor relations, marketing, and operations research. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Examples: Accounting Teacher, Marketing Teacher, Shorthand Teacher

25-1021 Computer Science Teachers, Postsecondary

Teach courses in computer science. May specialize in a field of computer science, such as the design and function of computers or operations and research analysis. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

25-1022 Mathematical Science Teachers, Postsecondary

Teach courses pertaining to mathematical concepts, statistics, and actuarial science and to the application of original and standardized mathematical techniques in solving specific problems and situations. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Examples: Actuarial Science Teacher, Calculus Teacher, Geometry Teacher

25-1032 Engineering Teachers, Postsecondary

Teach courses pertaining to the application of physical laws and principles of engineering for the development of machines, materials, instruments, processes, and services. Include teachers of subjects, such as chemical, civil, electrical, industrial, mechanical, mineral, and petroleum engineering. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research. Exclude "Computer Science Teachers, Postsecondary" (25-1021).

Illustrative Examples: Aeronautics Engineering Teacher, Civil Engineering Teacher, Electrical Engineering Teacher

25-1042 Biological Science Teachers, Postsecondary

Teach courses in biological sciences. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Examples: Bacteriology Teacher, Biochemistry Teacher, Genetics Teacher

25-1052 Chemistry Teachers, Postsecondary

Teach courses pertaining to the chemical and physical properties and compositional changes of substances. Work may include instruction in the methods of qualitative and quantitative chemical analysis. Include both teachers primarily engaged in teaching, and those who do a combination of both teaching and research. Exclude "Biological Science Teachers, Postsecondary" (25-1042) who teach biochemistry.

Illustrative Examples: Food Technology Teacher, Pharmacognosy Teacher

25-1063 Economics Teachers, Postsecondary

Teach courses in economics. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Examples: Agricultural Economics Teacher, Industrial Economics Teacher

25-1065 Political Science Teachers, Postsecondary

Teach courses in political science, international affairs, and international relations. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Examples: Government Teacher, International Relations Teacher, Public Policy Teacher

25-1066 Psychology Teachers, Postsecondary

Teach courses in psychology, such as child, clinical, and developmental psychology, and psychological counseling. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Examples: Child Development Teacher, Human Relations Teacher, Applied Psychology Teacher

25-1067 Sociology Teachers, Postsecondary

Teach courses in sociology. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

25-1071 Health Specialties Teachers, Postsecondary

Teach courses in health specialties, such as veterinary medicine, dentistry, pharmacy, therapy, laboratory technology, and public health. Exclude "Nursing Instructors and Teachers, Postsecondary" (25-1072) and "Biological Science Teachers, Postsecondary" (25-1042) who teach medical science.

Illustrative Examples: Pharmacology Teacher, Dentistry Teacher, Nutrition Teacher

25-1072 Nursing Instructors and Teachers, Postsecondary

Demonstrate and teach patient care in classroom and clinical units to nursing students. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Examples: Registered Nursing Instructor, Practical Nursing Instructor, Nurses Aides Instructors

25-1081 Education Teachers, Postsecondary

Teach courses pertaining to education, such as counseling, curriculum, guidance, instruction, teacher education, and teaching English as a second language. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

25-1121 Art, Drama and Music Teachers, Postsecondary

Teach courses in drama, music, and the arts including fine and applied art, such as painting and sculpture, or design and crafts. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Examples: Photography Teacher, Piano Teacher, Music Director

25-1122 Communications Teachers, Postsecondary

Teach courses in communications, such as organizational communications, public relations, radio/television broadcasting, and journalism. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Examples: Journalism Teacher, Public Speaking Teacher

25-1123 English Language and Literature Teachers, Postsecondary

Teach courses in English language and literature, including linguistics and comparative literature. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Examples: Classics Teacher, Etymology Teacher, Creative Writing Teacher

25-1124 Foreign Language and Literature Teachers, Postsecondary

Teach courses in foreign (i.e., other than English) languages and literature. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Examples: Arabic Teacher, Russian Teacher, Spanish Teacher

25-1125 History Teachers, Postsecondary

Teach courses in human history and historiography. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

25-1126 Philosophy and Religion Teachers, Postsecondary

Teach courses in philosophy, religion, and theology. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research.

Illustrative Examples: Divinity Teacher, Metaphysics Teacher, Theology Teacher

25-1194 Vocational Education Teachers, Postsecondary

Teach or instruct vocational or occupational subjects at the postsecondary level (but at less than the baccalaureate) to students who have graduated or left high school. Include correspondence school instructors; industrial, commercial and government training instructors; and adult education teachers and instructors who prepare persons to operate industrial machinery and equipment and transportation and communications equipment. Teaching may take place in public or private schools whose primary business is education or in a school associated with an organization whose primary business is other than education.

Illustrative Examples: Real Estate Instructor, Auto Mechanics Teacher, Barbering Teacher

25-2011 Preschool Teachers, Except Special Education

Instruct children (normally up to five years of age) in activities designed to promote social, physical, and intellectual growth needed for primary school in preschool, day care center, or other child development facility. May be required to hold state certification. Exclude "Child Care Workers" (39-9011) and "Special Education Teachers" (25-2041 through 25-2043).

Illustrative Examples: Head Start Teacher, Childhood Development Teacher, Nursery School Teacher

25-2012 Kindergarten Teachers, Except Special Education

Teach elemental natural and social science, personal hygiene, music, art, and literature to children from four to six years old. Promote physical, mental, and social development. May be required to hold state certification. Exclude "Special Education Teachers" (25-2041 through 25-2043).

25-2021 Elementary School Teachers, Except Special Education

Teach pupils in public or private schools at the elementary level basic academic, social, and other formative skills. Exclude "Special Education Teachers" (25-2041 through 25-2043).

25-2022 Middle School Teachers, Except Special and Vocational Education

Teach students in public or private schools in one or more subjects at the middle, intermediate, or junior high level, which falls between elementary and senior high school as defined by applicable state laws and regulations. Exclude "Middle School Vocational Education Teachers" (25-2023) and "Special Education Teachers" (25-2041 through 25-2043).

Illustrative Example: Junior High School Teacher

25-2031 Secondary School Teachers, Except Special and Vocational Education

Instruct students in secondary public or private schools in one or more subjects at the secondary level, such as English, mathematics, or social studies. May be designated according to subject matter specialty, such as typing instructors, commercial teachers, or English teachers. Exclude "Vocational Education Secondary School Teachers" (25-2032) and "Special Education Teachers" (25-2041 through 25-2043).

Illustrative Example: High School Teacher

25-2032 Vocational Education Teachers, Secondary School

Teach or instruct vocational or occupational subjects at the secondary school level.

25-2041 Special Education Teachers, Preschool, Kindergarten and Elementary School

Teach elementary and preschool school subjects to educationally and physically handicapped students. Include teachers who specialize and work with audibly and visually handicapped students and those who teach basic academic and life processes skills to the mentally impaired.

25-2042 Special Education Teachers, Middle School

Teach middle school subjects to educationally and physically handicapped students. Include teachers who specialize and work with audibly and visually handicapped students and those who teach basic academic and life processes skills to the mentally impaired.

25-2043 Special Education Teachers, Secondary School

Teach secondary school subjects to educationally and physically handicapped students. Include teachers who specialize and work with audibly and visually handicapped students and those who teach basic academic and life processes skills to the mentally impaired.

25-3011 Adult Literacy, Remedial Education, and GED Teachers and Instructors

Teach or instruct out-of-school youths and adults in remedial education classes, preparatory classes for the General Educational Development test, literacy, or English as a second language. Teaching may or may not take place in a traditional educational institution.

Illustrative Example: Adult Education Teacher

25-3021 Self-Enrichment Education Teachers

Teach or instruct courses other than those that normally lead to an occupational objective or degree. Courses may include self-improvement, nonvocational, and nonacademic subjects. Teaching may or may not take place in a traditional educational institution.

Illustrative Examples: Art Teacher, Flying Teacher, Citizenship Teacher

25-4010 Archivists, Curators and Museum Technicians

This broad occupation includes the following three detailed occupations:

25-4011 (SOC code only) Archivists: Appraise, edit, and direct safekeeping of permanent records and historically valuable documents. Participate in research activities based on archival materials.

25-4012 (SOC code only) Curators: Administer affairs of museum and conduct research programs. Direct instructional, research, and public service activities of institution.

25-4013 (SOC code only) Museum Technicians and Conservators: Prepare specimens, such as fossils, skeletal parts, lace, and textiles, for museum collection and exhibits. May restore documents or install, arrange, and exhibit materials.

Illustrative Examples: Docent Coordinator, Art Gallery Director, Museum Director, Museum Registrar

25-4021 Librarians

Administer libraries and perform related library services. Work in a variety of settings, including public libraries, schools, colleges and universities, museums, corporations, government agencies, law firms, nonprofit organizations, and health care providers. Tasks may include selecting, acquiring, cataloging, classifying, circulating, and maintaining library materials; and furnishing reference, bibliographical, and readers' advisory services. May perform in-depth, strategic research, and synthesize, analyze, edit, and filter information. May set up or work with databases and information systems to catalogue and access information.

Illustrative Examples: School Library Media Specialist, Circulation Manager

25-4031 Library Technicians

Assist librarians by helping readers in the use of library catalogs, databases, and indexes to locate books and other materials; and by answering questions that require only brief consultation of standard reference. Compile records; sort and shelf books; remove or repair damaged books; register patrons; check materials in and out of the circulation process. Replace materials in shelving area (stacks) or files. Include bookmobile drivers who operate bookmobiles or light trucks that pull trailers to specific locations on a predetermined schedule and assist with providing services in mobile libraries.

Illustrative Examples: Assistant Librarian, Bookmobile Driver

25-9021 Farm and Home Management Advisors

Advise, instruct, and assist individuals and families engaged in agriculture, agricultural-related processes, or home economics activities. Demonstrate procedures and apply research findings to solve problems; instruct and train in product development, sales, and the utilization of machinery and equipment to promote general welfare. Include county agricultural agents, feed and farm management advisers, home economists, and extension service advisers.

Illustrative Examples: Agricultural Extension Agent, Feed Adviser, Home Economic Extension Worker

25-9031 Instructional Coordinators

Develop instructional material, coordinate educational content, and incorporate current technology in specialized fields that provide guidelines to educators and instructors for developing curricula and conducting courses. Include educational consultants and specialists, and instructional material directors.

Illustrative Examples: Curriculum Specialist, Director of Instructional Materials, Educational Consultant

25-9041 Teacher Assistants

Perform duties that are instructional in nature or deliver direct services to students or parents. Serve in a position for which a teacher or another professional has ultimate responsibility for the design and implementation of educational programs and services.

Illustrative Examples: Examination Proctor, Paper Grader, Paraprofessional Teacher Aides

Arts, Design, Entertainment, Sports and Media Occupations

27-1023 Floral Designers

Design, cut, and arrange live, dried, or artificial flowers and foliage.

Illustrative Examples: Corsage Maker, Florist, Flower Arranger

27-1024 Graphic Designers

Design or create graphics to meet a client's specific commercial or promotional needs, such as packaging, displays, or logos. May use a variety of mediums to achieve artistic or decorative effects.

Illustrative Examples: Catalogue Illustrator, Graphic Artist, Layout Artist

27-1025 Interior Designers

Plan, design, and furnish interiors of residential, commercial, or industrial buildings. Formulate design which is practical, aesthetic, and conducive to intended purposes, such as raising productivity, selling merchandise, or improving lifestyle. May specialize in a particular field, style, or phase of interior design. Exclude "Merchandise Displayers and Window Trimmers" (27-1026).

Illustrative Examples: Decorator, Furniture Arranger, Home Lighting Adviser

27-1026 Merchandise Displayers and Window Trimmers

Plan and erect commercial displays, such as those in windows and interiors of retail stores and at trade exhibitions.

Illustrative Examples: Mannequin Decorator, Display Artist, Model Dresser

27-1027 Set and Exhibit Designers

Design special exhibits and movie, television, and theater sets. May study scripts, confer with directors, and conduct research to determine appropriate architectural styles.

Illustrative Examples: Set Decorator, Stage Scenery Designer

27-2012 Producers and Directors

Produce or direct stage, television, radio, video, or motion picture productions for entertainment, information, or instruction. Responsible for creative decisions, such as interpretation of script, choice of guests, set design, sound, special effects, and choreography.

Illustrative Examples: Independent Filmmaker, Stage Manager, Program Arranger

27-2022 Coaches and Scouts

Instruct or coach groups or individuals in the fundamentals of sports. Demonstrate techniques and methods of participation. May evaluate athletes' strengths and weaknesses as possible recruits or to improve the athletes' technique to prepare them for competition. Those required to hold teaching degrees should be reported in the appropriate teaching category. Exclude "Athletic Trainers" (29-9091).

Illustrative Examples: Boxing Trainer, Horse Trainer, Baseball Club Manager

27-2023 Umpires, Referees and Other Sports Officials

Officiate at competitive athletic or sporting events. Detect infractions of rules and decide penalties according to established regulations. Include all sporting officials, referees, and competition judges.

Illustrative Examples: Handicapper, Paddock Judge, Athletic Events Scorer

27-2042 Musicians and Singers

Play one or more musical instruments or entertain by singing songs in recital, in accompaniment, or as a member of an orchestra, band, or other musical group. Musical performers may entertain on stage, radio, TV, film, video, or record in studios. Exclude "Dancers" (27-2031).

Illustrative Examples: Cantor, Church Organist, Instrumentalist

27-3010 Announcers

Illustrative Examples: Broadcaster, Disc Jockey, Ringmaster, Train Caller

This broad occupation includes the following two detailed occupations:

27-3011 (SOC code only) Radio and Television Announcers: Talk on radio or television. May interview guests, act as master of ceremonies, read news flashes, identify station by giving call letters, or announce song title and artist.

27-3012 (SOC code only) Public Address System and Other Announcers: Make announcements over loud speaker at sporting or other public events. May act as master of ceremonies or disc jockey at weddings, parties, clubs, or other gathering places.

27-3020 News Analysts, Reporters and Correspondents

Illustrative Examples: News Anchor, Newscaster, Commentator, Columnist, Critic, Foreign Correspondent

This broad occupation includes the following two detailed occupations:

27-3021 (SOC code only) Broadcast News Analysts: Analyze, interpret, and broadcast news received from various sources.

27-3022 (SOC code only) Reporters and Correspondents: Collect and analyze facts about newsworthy events by interview, investigation, or observation. Report and write stories for newspaper, news magazine, radio, or television.

27-3031 Public Relations Specialists

Engage in promoting or creating goodwill for individuals, groups, or organizations by writing or selecting favorable publicity material and releasing it through various communications media. May prepare and arrange displays, and make speeches.

Illustrative Examples: Lobbyist, Press Secretary, Publicist

27-3041 Editors

Perform variety of editorial duties, such as laying out, indexing, and revising content of written materials, in preparation for final publication. Include technical editors.

Illustrative Examples: Copy Editor, Censor, Reviewer

27-3042 Technical Writers

Write technical materials, such as equipment manuals, appendices, or operating and maintenance instructions. May assist in layout work.

Illustrative Examples: Documentation Writer, Assembly Instructions Writer, Specifications Writer

27-3043 Writers and Authors

Originate and prepare written material, such as scripts, stories, advertisements, and other material. Exclude "Public Relations Specialists" (27-3031) and "Technical Writers" (27-3042).

Illustrative Examples: Crossword Puzzle Maker, Copywriter, Playwright

27-4011 Audio and Video Equipment Technicians

Set up or set up and operate audio and video equipment including microphones, sound speakers, video screens, projectors, video monitors, recording equipment, connecting wires and cables, sound and mixing boards, and related electronic equipment for concerts, sports events, meetings and conventions, presentations, and news conferences. May also set up and operate associated spotlights and other custom lighting systems. Exclude "Sound Engineering Technicians" (27-4014).

Illustrative Examples: Video Control Operator, Audiovisual Production Specialist

27-4012 Broadcast Technicians

Set up, operate, and maintain the electronic equipment used to transmit radio and television programs. Control audio equipment to regulate volume level and quality of sound during radio and television broadcasts. Operate radio transmitter to broadcast radio and television programs.

Illustrative Examples: Control Room Technician, Audio Engineer

27-4021 Photographers

Photograph persons, subjects, merchandise, or other commercial products. May develop negatives and produce finished prints. Include scientific photographers, aerial photographers, and photojournalists.

Illustrative Examples: Camera Operator, Photojournalist

27-4031 Camera Operators, Television, Video and Motion Picture

Operate television, video, or motion picture camera to photograph images or scenes for various purposes, such as TV broadcasts, advertising, video production, or motion pictures.

Illustrative Example: Cinematographer

27-4032 Film and Video Editors

Edit motion picture soundtracks, film, and video.

Illustrative Examples: Cue Selector, Videotape Duplicator

Health Care Practitioners and Technical Occupations

29-1031 Dietitians and Nutritionists

Plan and conduct food service or nutritional programs to assist in the promotion of health and control of disease. May supervise activities of a department providing quantity food services, counsel individuals, or conduct nutritional research.

Illustrative Examples: Public Health Dietitian, Nutrition Director, Research Dietitian

29-1051 Pharmacists

Dispense drugs prescribed by physicians and other health practitioners and provide information to patients about medications and their use. May advise physicians and other health practitioners on the selection, dosage, interactions, and side effects of medications.

Illustrative Examples: Apothecary, Druggist, Industrial Pharmacist

29-1062 Family and General Practitioners

Diagnose, treat, and help prevent diseases and injuries that commonly occur in the general population.

29-1063 Internists, General

Diagnose and provide nonsurgical treatment of diseases and injuries of internal organ systems. Provide care mainly for adults who have a wide range of problems associated with the internal organs. Include subspecialists, such as cardiologists and gastroenterologists, with "All Other Physicians" (29-1069).

29-1065 Pediatricians, General

Diagnose, treat, and help prevent children's diseases and injuries.

29-1067 Surgeons

Treat diseases, injuries, and deformities by invasive methods, such as manual manipulation or by using instruments and appliances.

Illustrative Examples: Orthopedic Surgeon, Cardiovascular Surgeon, Plastic Surgeon

29-1071 Physician Assistants

Provide health care services typically performed by a physician, under the supervision of a physician. Conduct complete physicals, provide treatment, and counsel patients. May, in some cases, prescribe medication. Must graduate from an accredited educational program for physician assistants. Exclude "Emergency Medical Technicians and Paramedics" (29-2041), "Medical Assistants" (31-9092), and "Registered Nurses" (29-1111).

Illustrative Example: Anesthesiologist Assistant

29-1111 Registered Nurses

Assess patient health problems and needs, develop and implement nursing care plans, and maintain medical records. Administer nursing care to ill, injured, convalescent, or disabled patients. May advise patients on health maintenance and disease prevention or provide case management. Licensing or registration required. Include advance practice nurses such as: nurse practitioners, clinical nurse specialists, certified nurse midwives, and certified registered nurse anesthetists. Advanced practice nursing is practiced by RNs who have specialized formal, post-basic education and who function in highly autonomous and specialized roles.

Illustrative Examples: Nursing Supervisor, Nurse Midwife, Nurse Practitioner

29-1122 Occupational Therapists

Assess, plan, organize, and participate in rehabilitative programs that help restore vocational, homemaking, and daily living skills, as well as general independence, to disabled persons.

29-1123 Physical Therapists

Assess, plan, organize, and participate in rehabilitative programs that improve mobility, relieve pain, increase strength, and decrease or prevent deformity of patients suffering from disease or injury.

Illustrative Examples: Physiotherapist, Pulmonary Physical Therapist

29-1124 Radiation Therapists

Provide radiation therapy to patients as prescribed by a radiologist according to established practices and standards. Duties may include reviewing prescription and diagnosis; acting as liaison with physician and supportive care personnel; preparing equipment, such as immobilization, treatment, and protection devices; and maintaining records, reports, and files. May assist in dosimetry procedures and tumor localization.

Illustrative Examples: Dosimetrist, Radiation Therapy Technologist

29-1125 Recreational Therapists

Plan, direct, or coordinate medically-approved recreation programs for patients in hospitals, nursing homes, or other institutions. Activities include sports, trips, dramatics, social activities, and arts and crafts. May assess a patient condition and recommend appropriate recreational activity.

Illustrative Example: Therapeutic Recreation Specialist

29-1126 Respiratory Therapists

Assess, treat, and care for patients with breathing disorders. Assume primary responsibility for all respiratory care modalities, including the supervision of respiratory therapy technicians. Initiate and conduct therapeutic procedures; maintain patient records; and select, assemble, check, and operate equipment.

Illustrative Examples: Inhalation Therapist, Respiratory Care Practitioner, Oxygen Therapist

29-1127 Speech-Language Pathologists

Assess and treat persons with speech, language, voice, and fluency disorders. May select alternative communication systems and teach their use. May perform research related to speech and language problems.

Illustrative Examples: Oral Therapist, Speech Clinician, Speech Therapist

29-1131 Veterinarians

Diagnose and treat diseases and dysfunctions of animals. May engage in a particular function, such as research and development, consultation, administration, technical writing, sale or production of commercial products, or rendering of technical services to commercial firms or other organizations. Include veterinarians who inspect livestock.

Illustrative Examples: Animal Pathologist, Animal Surgeon, Veterinary Bacteriologist

29-2011 Medical and Clinical Laboratory Technologists

Perform complex medical laboratory tests for diagnosis, treatment, and prevention of disease. May train or supervise staff.

Illustrative Examples: Blood Bank Technologist, Cytotechnologist, Immunohematologist

29-2012 Medical and Clinical Laboratory Technicians

Perform routine medical laboratory tests for the diagnosis, treatment, and prevention of disease. May work under the supervision of a medical technologist.

Illustrative Examples: Blood Bank Technician, Cytotechnician, Serology Technician

29-2021 Dental Hygienists

Clean teeth and examine oral areas, head, and neck for signs of oral disease. May educate patients on oral hygiene, take and develop X-rays, or apply fluoride or sealants.

Illustrative Example: Oral Hygienist

29-2031 Cardiovascular Technologists and Technicians

Conduct tests on pulmonary or cardiovascular systems of patients for diagnostic purposes. May conduct or assist in electrocardiograms, cardiac catheterizations, pulmonary functions, lung capacity, and similar tests. Include vascular technologists.

Illustrative Examples: Cardiographer, Cardiopulmonary Technologist, E.K.G. Technician

29-2032 Diagnostic Medical Sonographers

Produce ultrasonic recordings of internal organs for use by physicians.

Illustrative Examples: Ultrasonic Tester, Ultrasound Technologist

29-2033 Nuclear Medicine Technologists

Prepare, administer, and measure radioactive isotopes in therapeutic, diagnostic, and tracer studies utilizing a variety of radioisotope equipment. Prepare stock solutions of radioactive materials and calculate doses to be administered by radiologists. Subject patients to radiation. Execute blood volume, red cell survival, and fat absorption studies following standard laboratory techniques.

Illustrative Example: Radioisotope Technician

29-2034 Radiologic Technologists and Technicians

Take X-rays and CAT scans or administer nonradioactive materials into patient's bloodstream for diagnostic purposes. Include technologists who specialize in other modalities, such as computed tomography and magnetic resonance. Include workers whose primary duties are to demonstrate portions of the human body on X-ray film or fluoroscopic screen.

Illustrative Examples: CAT Scan Operator, Skiagrapher, X-ray Technician

29-2041 Emergency Medical Technicians and Paramedics

Assess injuries, administer emergency medical care, and extricate trapped individuals. Transport injured or sick persons to medical facilities.

Illustrative Example: E.M.T.

29-2051 Dietetic Technicians

Assist dietitians in the provision of food service and nutritional programs. Under the supervision of dietitians, may plan and produce meals based on established guidelines, teach principles of food and nutrition, or counsel individuals.

29-2052 Pharmacy Technicians

Prepare medications under the direction of a pharmacist. May measure, mix, count out, label, and record amounts and dosages of medications.

29-2054 Respiratory Therapy Technicians

Provide specific, well-defined respiratory care procedures under the direction of respiratory therapists and physicians.

Illustrative Example: Oxygen Therapy Technician

29-2055 Surgical Technologists

Assist in operations, under the supervision of surgeons, registered nurses, or other surgical personnel. May help set up operating room, prepare and transport patients for surgery, adjust lights and equipment, pass instruments and other supplies to surgeons and surgeon's assistants, hold retractors, cut sutures, and help count sponges, needles, supplies, and instruments.

Illustrative Examples: Operating Room Technician, Scrub Technician, Surgical Orderly

29-2056 Veterinary Technologists and Technicians

Perform medical tests in a laboratory environment for use in the treatment and diagnosis of diseases in animals. Prepare vaccines and serums for prevention of diseases. Prepare tissue samples, take blood samples, and execute laboratory tests, such as urinalysis and blood counts. Clean and sterilize instruments and materials and maintain equipment and machines.

Illustrative Examples: Animal Technician, Veterinary X-ray Operator

29-2061 Licensed Practical and Licensed Vocational Nurses

Care for ill, injured, convalescent, or disabled persons in hospitals, nursing homes, clinics, private homes, group homes, and similar institutions. May work under the supervision of a registered nurse. Licensing required.

Illustrative Example: Licensed Attendant

29-2071 Medical Records and Health Information Technicians

Compile, process, and maintain medical records of hospital and clinic patients in a manner consistent with medical, administrative, ethical, legal, and regulatory requirements of the health care system. Process, maintain, compile, and report patient information for health requirements and standards.

Illustrative Examples: Disability Rater, Medical Records Specialist, Medical Library Historian

29-2081 Opticians, Dispensing

Design, measure, fit, and adapt lenses and frames for client according to written optical prescription or specification. Assist client with selecting frames. Measure customer for size of eyeglasses and coordinate frames with facial and eye measurements and optical prescription. Prepare work order for optical laboratory containing instructions for grinding and mounting lenses in frames. Verify exactness of finished lens spectacles. Adjust frame and lens position to fit client. May shape or reshape frames. Include contact lens opticians.

Illustrative Examples: Contact Lens Fitter, Eyeglass Fitter

29-9010 Occupational Health and Safety Specialists and Technicians

Illustrative Examples: Health Inspector, Industrial Hygienist Health Sanitarian, Mine Examiner

This broad occupation includes the following two detailed occupations:

29-9011 (SOC code only) Occupational Health and Safety Specialists: Review, evaluate, and analyze work environments and design programs and procedures to control, eliminate, and prevent disease or injury caused by chemical, physical, and biological agents or ergonomic factors. May conduct inspections and enforce adherence to laws and regulations governing the health and safety of individuals. May be employed in the public or private sector. Include environmental protection officers.

29-9012 (SOC code only) Occupational Health and Safety Technicians: Collect data on work environments for analysis by occupational health and safety specialists. Implement and conduct evaluation of programs designed to limit chemical, physical, biological, and ergonomic risks to workers.

29-9091 Athletic Trainers

Evaluate, advise, and treat athletes to assist recovery from injury, avoid injury, or maintain peak physical fitness.

Health Care Support Occupations

31-1011 Home Health Aides

Provide routine, personal health care, such as bathing, dressing, or grooming, to elderly, convalescent, or disabled persons in the home of patients or in a residential care facility.

Illustrative Example: Home Attendant

31-1012 Nursing Aides, Orderlies and Attendants

Provide basic patient care under direction of nursing staff. Perform duties, such as feed, bathe, dress, groom, or move patients, or change linens. Exclude "Home Health Aides" (31-1011) and "Psychiatric Aides" (31-1013).

Illustrative Examples: Certified Nursing Assistant, Hospital Aide, Infirmary Attendant

31-1013 Psychiatric Aides

Assist mentally impaired or emotionally disturbed patients, working under direction of nursing and medical staff.

Illustrative Examples: Charge Attendant, Psychiatric Orderly

31-2021 Physical Therapist Assistants

Assist physical therapists in providing physical therapy treatments and procedures. May, in accordance with state laws, assist in the development of treatment plans, carry out routine functions, document the progress of treatment, and modify specific treatments in accordance with patient status and within the scope of treatment plans established by a physical therapist. Generally requires formal training.

Illustrative Example: Corrective Therapy Assistant

31-2022 Physical Therapist Aides

Under close supervision of a physical therapist or physical therapy assistant, perform only delegated, selected, or routine tasks in specific situations. These duties include preparing the patient and the treatment area.

Illustrative Example: Physiotherapy Aide

31-9091 Dental Assistants

Assist dentist, set up patient and equipment, and keep records.

31-9092 Medical Assistants

Perform administrative and certain clinical duties under the direction of physician. Administrative duties may include scheduling appointments, maintaining medical records, billing, and coding for insurance purposes. Clinical duties may include taking and recording vital signs and medical histories, preparing patients for examination, drawing blood, and administering medications as directed by physician. Exclude "Physician Assistants" (29-1071).

Illustrative Examples: Morgue Attendant, Ophthalmic Aide, Physicians Aide

31-9093 Medical Equipment Preparers

Prepare, sterilize, install, or clean laboratory or health care equipment. May perform routine laboratory tasks and operate or inspect equipment.

Illustrative Examples: Bandage Maker, Hot Packer, Sterilizer

31-9094 Medical Transcriptionists

Use transcribing machines with headset and foot pedal to listen to recordings by physicians and other health care professionals dictating a variety of medical reports, such as emergency room visits, diagnostic imaging studies, operations, chart reviews, and final summaries. Transcribe dictated reports and translate medical jargon and abbreviations into their expanded forms. Edit as necessary and return reports in either printed or electronic form to the dictator for review and signature, or correction.

Illustrative Example: Medical Stenographer

31-9095 Pharmacy Aides

Record drugs delivered to the pharmacy, store incoming merchandise, and inform the supervisor of stock needs. May operate cash register and accept prescriptions for filling.

Illustrative Examples: Dispensary Attendant, Prescription Clerk

31-9096 Veterinary Assistants and Laboratory Animal Caretakers

Feed, water, and examine pets and other nonfarm animals for signs of illness, disease, or injury in laboratories and animal hospitals and clinics. Clean and disinfect cages and work areas, and sterilize laboratory and surgical equipment. May provide routine postoperative care, administer medication orally or topically, or prepare samples for laboratory examination under the supervision of veterinary or laboratory animal technologists or technicians, veterinarians, or scientists. Exclude "Nonfarm Animal Caretakers" (39-2021).

Protective Service Occupations**33-1012 First-Line Supervisors/Managers of Police and Detectives**

Supervise and coordinate activities of members of police force.

Illustrative Examples: Chief of Police, Precinct Captain

33-1021 First-Line Supervisors/Managers of Fire Fighting and Prevention Workers

Supervise and coordinate activities of workers engaged in fire fighting and fire prevention and control.

Illustrative Examples: Fire Captain, Fire Chief, Fire Marshal

33-2011 Firefighters

Control and extinguish fires or respond to emergency situations where life, property, or the environment is at risk. Duties may include fire prevention, emergency medical service, hazardous material response, search and rescue, and disaster management.

Illustrative Examples: Explosive Ordnance Disposal Technician, Fireboat Operator, Smoke Jumper

33-2021 Fire Inspectors and Investigators

Inspect buildings to detect fire hazards and enforce local ordinances and state laws. Investigate and gather facts to determine cause of fires and explosions.

Illustrative Example: Arson Investigator

33-3011 Bailiffs

Maintain order in courts of law.

Illustrative Examples: Court Officer, Sergeant at Arms

33-3012 Correctional Officers and Jailers

Guard inmates in penal or rehabilitative institution in accordance with established regulations and procedures. May guard prisoners in transit between jail, courtroom, prison, or other point. Include deputy sheriffs and police who spend the majority of their time guarding prisoners in correctional institutions.

Illustrative Examples: Convict Guard, Custodial Officer, Prison Guard

33-3021 Detectives and Criminal Investigators

Conduct investigations related to suspected violations of federal, state, or local laws to prevent or solve crimes. Exclude "Private Detectives and Investigators" (33-9021).

Illustrative Examples: Police Inspector, Deputy United States Marshal, Narcotics Agent

33-3051 Police and Sheriff's Patrol Officers

Maintain order, enforce laws and ordinances, and protect life and property in an assigned patrol district. Perform combination of following duties: patrol a specific area on foot or in a vehicle; direct traffic; issue traffic summonses; investigate accidents; apprehend and arrest suspects, or serve legal processes of courts.

Illustrative Examples: Border Guard, Campus Police, City Constable

33-9011 Animal Control Workers

Handle animals for the purpose of investigations of mistreatment, or control of abandoned, dangerous, or unattended animals.

Illustrative Examples: Animal Warden, Dogcatcher, Humane Officer

33-9032 Security Guards

Guard, patrol, or monitor premises to prevent theft, violence, or infractions of rules.

Illustrative Examples: Bodyguard, Bouncer, Watchguard

33-9091 Crossing Guards

Guide or control vehicular or pedestrian traffic at such places as streets, schools, railroad crossings, or construction sites.

Illustrative Examples: Flagger, Gate Operator, School Patrol

Food Preparation and Serving Related Occupations

35-1011 Chefs and Head Cooks

Direct the preparation, seasoning, and cooking of salads, soups, fish, meats, vegetables, desserts, or other foods. May plan and price menu items, order supplies, and keep records and accounts. May participate in cooking.

Illustrative Examples: Executive Chef, Pastry Chef, Sous Chef

35-1012 First-Line Supervisors/Managers of Food Preparation and Serving Workers

Supervise workers engaged in preparing and serving food.

Illustrative Examples: Cafeteria Manager, Caterer, Bar Manager

35-2011 Cooks, Fast Food

Prepare and cook food in a fast-food restaurant with a limited menu. Duties of the cooks are limited to preparation of a few basic items and normally involve operating large-volume single-purpose cooking equipment.

Illustrative Examples: Fry Cook, Pizza Maker

35-2012 Cooks, Institution and Cafeteria

Prepare and cook large quantities of food for institutions, such as schools, hospitals, or cafeterias.

Illustrative Examples: Camp Cook, Mess Cook, Galley Cook

35-2014 Cooks, Restaurant

Prepare, season, and cook soups, meats, vegetables, desserts, or other foodstuffs in restaurants. May order supplies, keep records and accounts, price items on menu, or plan menu.

Illustrative Examples: Broiler Cook, Specialty Foreign Food Cook, Garde-manger

35-2015 Cooks, Short Order

Prepare and cook to order a variety of foods that require only a short preparation time. May take orders from customers and serve patrons at counters or tables. Exclude "Fast Food Cooks" (35-2011).

Illustrative Examples: Barbecue Cook, Griddle Cook

35-2021 Food Preparation Workers

Perform a variety of food preparation duties other than cooking, such as preparing cold foods and shellfish, slicing meat, and brewing coffee or tea.

Illustrative Examples: Coffee Maker, Kitchen Helper, Sandwich Maker

35-3011 Bartenders

Mix and serve drinks to patrons, directly or through waitstaff.

Illustrative Examples: Barkeeper, Taproom Attendant

35-3021 Combined Food Preparation and Serving Workers, Including Fast Food

Perform duties which combine both food preparation and food service.

Illustrative Examples: Caterers Aide, Deli Clerk, Mess Attendant

35-3022 Counter Attendants, Cafeteria, Food Concession and Coffee Shop

Serve food to diners at counter or from a steam table. Include counter attendants who also wait tables with "Waiters and Waitresses" (35-3031).

Illustrative Examples: Canteen Operator, Snack Bar Attendant, Hot Dog Attendant

35-3031 Waiters and Waitresses

Take orders and serve food and beverages to patrons at tables in dining establishment. Exclude "Counter Attendants, Cafeteria, Food Concession, and Coffee Shop" (35-3022).

Illustrative Examples: Cocktail Waiter, Wine Steward, Head Waitress

35-3041 Food Servers, Nonrestaurant

Serve food to patrons outside of a restaurant environment, such as in hotels, hospital rooms, or cars. Exclude "Door-to-Door Sales Workers, News and Street Vendors, and Related Workers" (41-9091) and "Counter Attendants, Cafeteria, Food Concession and Coffee Shop" (35-3022).

Illustrative Examples: Curb Attendant, Hospital Tray-Service Worker, Room Service Clerk

35-9011 Dining Room and Cafeteria Attendants and Bartender Helpers

Facilitate food service. Clean tables, carry dirty dishes, replace soiled table linens; set tables; replenish supply of clean linens, silverware, glassware, and dishes; supply service bar with food, and serve water, butter, and coffee to patrons.

Illustrative Examples: Busser, Lunchroom Attendant, Tray Setter

35-9021 Dishwashers

Clean dishes, kitchen, food preparation equipment, or utensils.

Illustrative Examples: Kitchen Cleaner, Glass Washer, Pot Washer

35-9031 Hosts and Hostesses, Restaurant, Lounge and Coffee Shop

Welcome patrons, seat them at tables or in lounge, and help ensure quality of facilities and service.

Illustrative Examples: Maitre D', Dining Room Host

Building and Grounds Cleaning and Maintenance Occupations

37-1011 First-Line Supervisors/Managers of Housekeeping and Janitorial Workers

Supervise work activities of cleaning personnel in hotels, hospitals, offices, and other establishments.

Illustrative Examples: Building Superintendent, Household Manager, Housekeeping Supervisor

37-1012 First-Line Supervisors/Managers of Landscaping, Lawn Service and Groundskeeping Workers

Plan, organize, direct, or coordinate activities of workers engaged in landscaping or groundskeeping activities, such as planting and maintaining ornamental trees, shrubs, flowers, and lawns, and applying fertilizers, pesticides, and other chemicals, according to contract specifications. May also coordinate activities of workers engaged in terracing hillsides, building retaining walls, constructing pathways, installing patios, and similar activities in following a landscape design plan. Work may involve reviewing contracts to ascertain service, machine, and workforce requirements; answering inquiries from potential customers regarding methods, material, and price ranges; and preparing estimates according to labor, material, and machine costs.

Illustrative Examples: Landscape Contractor, Golf Course Superintendent, Nursery Supervisor

37-2011 Janitors and Cleaners, Except Maids and Housekeeping Cleaners

Keep buildings in clean and orderly condition. Perform heavy cleaning duties, such as cleaning floors, shampooing rugs, washing walls and glass, and removing rubbish. Duties may include tending furnace and boiler, performing routine maintenance activities, notifying management of need for repairs, and cleaning snow or debris from sidewalk.

Illustrative Examples: Floor Cleaner, Building Custodian, Window Washer

37-2012 Maids and Housekeeping Cleaners

Perform any combination of light cleaning duties to maintain private households or commercial establishments, such as hotels, restaurants, and hospitals, in a clean and orderly manner. Duties include making beds, replenishing linens, cleaning rooms and halls, and vacuuming.

Illustrative Examples: Bed Maker, Chambermaid, Housekeeper

37-2021 Pest Control Workers

Spray or release chemical solutions or toxic gases and set traps to kill pests and vermin, such as mice, termites, and roaches, that infest buildings and surrounding areas.

Illustrative Examples: Exterminator, Exterminator Helper, Fumigator

37-3011 Landscaping and Groundskeeping Workers

Landscape or maintain grounds of property using hand or power tools or equipment. Workers typically perform a variety of tasks, which may include any combination of the following: sod laying, mowing, trimming, planting, watering, fertilizing, digging, raking, sprinkler installation, and installation of mortarless segmental concrete masonry wall units. Exclude "Farmworkers and Laborers, Crop, Nursery and Greenhouse" (45-2092).

Illustrative Examples: Landscape Gardener, Outdoor Sprinkler Installer, Greenskeeper

37-3012 Pesticide Handlers, Sprayers and Applicators, Vegetation

Mix or apply pesticides, herbicides, fungicides, or insecticides through sprays, dusts, vapors, soil incorporation or chemical application on trees, shrubs, lawns, or botanical crops. Usually requires specific training and state or federal certification. Exclude "Commercial Pilots" (53-2012) who operate aviation equipment to dust or spray crops.

Illustrative Examples: Fruit Sprayer, Weed Controller

Personal Care and Service Occupations

39-1011 Gaming Supervisors

Supervise gaming operations and personnel in an assigned area. Circulate among tables and observe operations. Ensure that stations and games are covered for each shift. May explain and interpret operating rules of house to patrons. May plan and organize activities and create friendly atmosphere for guests in hotels/casinos. May adjust service complaints. Exclude "Slot Key Persons" (39-1012).

Illustrative Examples: Executive Casino Host, Table Games Supervisor, Pit Boss

39-1021 First-Line Supervisors/Managers of Personal Service Workers

Supervise and coordinate activities of personal service workers, such as supervisors of flight attendants, hairdressers, or caddies.

Illustrative Examples: Caddymaster, Barbershop Manager, Health Club Manager

39-2021 Nonfarm Animal Caretakers

Feed, water, groom, bathe, exercise, or otherwise care for pets and other nonfarm animals, such as dogs, cats, ornamental fish or birds, zoo animals, and mice. Work in settings such as kennels, animal shelters, zoos, circuses, and aquariums. May keep records of feedings, treatments, and animals received or discharged. May clean, disinfect, and repair cages, pens, or fish tanks. Exclude "Veterinary Assistants and Laboratory Animal Caretakers" (31-9096).

Illustrative Examples: Dog Groomer, Kennel Worker, Stable Attendant

39-3021 Motion Picture Projectionists

Set up and operate motion picture projection and related sound reproduction equipment.

Illustrative Examples: Chief Projectionist, Film Projector Operator

39-3031 Ushers, Lobby Attendants and Ticket Takers

Assist patrons at entertainment events by performing duties, such as collecting admission tickets and passes from patrons, assisting in finding seats, searching for lost articles, and locating such facilities as rest rooms and telephones.

Illustrative Examples: Door Attendant, Ticket Collector

39-3091 Amusement and Recreation Attendants

Perform variety of attending duties at amusement or recreation facility. May schedule use of recreation facilities, maintain and provide equipment to participants of sporting events or recreational pursuits, or operate amusement concessions and rides.

Illustrative Examples: Arcade Attendant, Golf Course Starter, Caddy

39-4021 Funeral Attendants

Perform variety of tasks during funeral, such as placing casket in parlor or chapel prior to service; arranging floral offerings or lights around casket; directing or escorting mourners; closing casket; and issuing and storing funeral equipment.

Illustrative Examples: Mortician Helper, Pallbearer

39-5011 Barbers

Provide barbering services, such as cutting, trimming, shampooing, and styling hair, trimming beards, or giving shaves.

Illustrative Examples: Barber Apprentice, Haircutter

39-5012 Hairdressers, Hairstylists and Cosmetologists

Provide beauty services, such as shampooing, cutting, coloring, and styling hair, and massaging and treating scalp. May also apply makeup, dress wigs, perform hair removal, and provide nail and skin care services.

Illustrative Examples: Beautician, Wig Stylist, Electrologist

39-6011 Baggage Porters and Bellhops

Handle baggage for travelers at transportation terminals or for guests at hotels or similar establishments.

Illustrative Examples: Baggage Handler, Lobby Porter, Skycap

39-6021 Tour Guides and Escorts

Escort individuals or groups on sightseeing tours or through places of interest, such as industrial establishments, public buildings, and art galleries.

Illustrative Examples: Page, Sightseeing Guide

39-6022 Travel Guides

Plan, organize, and conduct long-distance cruises, tours, and expeditions for individuals and groups.

Illustrative Examples: Cruise Director, Tour Director

39-9011 Child Care Workers

Attend to children at schools, businesses, private households, and child care institutions. Perform a variety of tasks, such as dressing, feeding, bathing, and overseeing play. Exclude "Preschool Teachers" (25-2011) and "Teacher Assistants" (25-9041).

Illustrative Examples: Baby-sitter, Governess, Nanny

39-9021 Personal and Home Care Aides

Assist elderly or disabled adults with daily living activities at the person's home or in a daytime nonresidential facility.

Duties performed at a place of residence may include keeping house (making beds, doing laundry, washing dishes) and preparing meals. May provide meals and supervised activities at nonresidential care facilities. May advise families, the elderly, and disabled on such things as nutrition, cleanliness, and household utilities.

Illustrative Examples: Blind Escort, Caregiver, Geriatric Aide

39-9031 Fitness Trainers and Aerobics Instructors

Instruct or coach groups or individuals in exercise activities and the fundamentals of sports. Demonstrate techniques and methods of participation. Observe participants and inform them of corrective measures necessary to improve their skills. Those required to hold teaching degrees should be reported in the appropriate teaching category. Exclude "Athletic Trainers" (29-9091).

Illustrative Examples: Exercise Teacher, Personal Trainer, Yoga Teacher

39-9032 Recreation Workers

Conduct recreation activities with groups in public, private, or volunteer agencies or recreation facilities. Organize and promote activities, such as arts and crafts, sports, games, music, dramatics, social recreation, camping, and hobbies, taking into account the needs and interests of individual members.

Illustrative Examples: Camp Counselor, Playground Director, Activities Director

39-9041 Residential Advisors

Coordinate activities for residents of boarding schools, college fraternities or sororities, college dormitories, or similar establishments. Order supplies and determine need for maintenance, repairs, and furnishings. May maintain household records and assign rooms. May refer residents to counseling resources if needed.

Illustrative Examples: Dormitory Supervisor, Houseparent

Sales and Related Occupations**41-1011 First-Line Supervisors/Managers of Retail Sales Workers**

Directly supervise sales workers in a retail establishment or department. Duties may include management functions, such as purchasing, budgeting, accounting, and personnel work, in addition to supervisory duties.

Illustrative Examples: Department Manager, Flower Shop Manager, Supervisor of Cashiers

41-1012 First-Line Supervisors/Managers of Non-Retail Sales Workers

Directly supervise and coordinate activities of sales workers other than retail sales workers. May perform duties, such as budgeting, accounting, and personnel work, in addition to supervisory duties.

Illustrative Examples: District Sales Manager, Dry-cleaning Manager, Blood-Donor Recruiter Supervisor

41-2011 Cashiers

Receive and disburse money in establishments other than financial institutions. Usually involves use of electronic scanners, cash registers, or related equipment. Often involved in processing credit or debit card transactions and validating checks.

Illustrative Examples: Auction Clerk, Toll Collector, Disbursement Clerk

41-2012 Gaming Change Persons and Booth Cashiers

Exchange coins and tokens for patrons' money. May issue payoffs and obtain customer's signature on receipt when winnings exceed the amount held in the slot machine. May operate a booth in the slot machine area and furnish change persons with money bank at the start of the shift, or count and audit money in drawers.

Illustrative Examples: Carousel Attendant, Slot Attendant

41-2021 Counter and Rental Clerks

Receive orders for repairs, rentals, and services. May describe available options, compute cost, and accept payment.

Illustrative Examples: Airplane Charter Clerk, Car Rental Agent, Skate Shop Attendant

41-2022 Parts Salespersons

Sell spare and replacement parts and equipment in repair shop or parts store.

Illustrative Examples: Parts Clerk, Auto Parts Salesperson, Electronic Parts Salesperson

41-2031 Retail Salespersons

Sell merchandise, such as furniture, motor vehicles, appliances, or apparel in a retail establishment. Exclude "Cashiers" (41-2011).

Illustrative Examples: Car Dealer, Haberdasher, Wallpaper Salesperson

41-3011 Advertising Sales Agents

Sell or solicit advertising, including graphic art, advertising space in publications, custom-made signs, or TV and radio advertising time. May obtain leases for outdoor advertising sites or persuade retailer to use sales promotion display items.

Illustrative Examples: Radio Time Salesperson, Yellow Pages Salesperson, Leasing Agent Outdoor Advertising

41-3021 Insurance Sales Agents

Sell life, property, casualty, health, automotive, or other types of insurance. May refer clients to independent brokers, work as independent broker, or be employed by an insurance company.

Illustrative Examples: Insurance Broker, Insurance Solicitor, Pension Agent

41-3031 Securities, Commodities and Financial Services Sales Agents

Buy and sell securities in investment and trading firms, or call upon businesses and individuals to sell financial services. Provide financial services, such as loan, tax, and securities counseling. May advise securities customers about such things as stocks, bonds, and market conditions.

Illustrative Examples: Investment Banker, Stockbroker, Stock Trader

41-3041 Travel Agents

Plan and sell transportation and accommodations for travel agency customers. Determine destination, modes of transportation, travel dates, costs, and accommodations required.

Illustrative Examples: Travel Consultant, Travel Counselor

41-4011 Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products

Sell goods for wholesalers or manufacturers where technical or scientific knowledge is required in such areas as biology, engineering, chemistry, and electronics, normally obtained from at least two years of postsecondary education.

Illustrative Examples: Electronics Sales Representative, Oil Field Equipment Sales Representative, Pharmaceutical Representative

41-4012 Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products

Sell goods for wholesalers or manufacturers to businesses or groups of individuals. Work requires substantial knowledge of items sold.

Illustrative Examples: Diamond Broker, Oil Distributor, Wool Merchant

41-9011 Demonstrators and Product Promoters

Demonstrate merchandise and answer questions for the purpose of creating public interest in buying the product. May sell demonstrated merchandise.

Illustrative Examples: Home Demonstrator, Exhibit Display Representative

41-9022 Real Estate Sales Agents

Rent, buy, or sell property for clients. Perform duties, such as study property listings, interview prospective clients, accompany clients to property site, discuss conditions of sale, and draw up real estate contracts. Include agents who represent buyer.

Illustrative Examples: Apartment Rental Agent, Land Agent, Right-of-Way Agent

41-9031 Sales Engineers

Sell business goods or services, the selling of which requires a technical background equivalent to a baccalaureate degree in engineering. Exclude "Engineers" (17-2011 through 17-2199) whose primary function is not marketing or sales.

Illustrative Examples: Aeronautical Products Sales Engineer, Industrial Machinery Sales Engineer, Nuclear Equipment Sales Engineer

41-9041 Telemarketers

Solicit orders for goods or services over the telephone.

Illustrative Examples: Telephone Salesperson, Telephone Solicitor

41-9091 Door-to-Door Sales Workers, News and Street Vendors, and Related Workers

Sell goods or services door-to-door or on the street.

Illustrative Examples: Peddler, Direct Selling

Office and Administrative Support Occupations

43-1011 First-Line Supervisors/Managers of Office and Administrative Support Workers

Supervise and coordinate the activities of clerical and administrative support workers.

Illustrative Examples: Claims Supervisor, Stockroom Manager, Teller Supervisor

43-2011 Switchboard Operators, Including Answering Service

Operate telephone business systems equipment or switchboards to relay incoming, outgoing, and interoffice calls. May supply information to callers and record messages.

Illustrative Examples: Communication Center Operator, Exchange Operator, Telephone Answering Service Operator

43-3011 Bill and Account Collectors

Locate and notify customers of delinquent accounts by mail, telephone, or personal visit to solicit payment. Duties include receiving payment and posting amount to customer's account; preparing statements to credit department if customer fails to respond; initiating repossession proceedings or service disconnection; keeping records of collection and status of accounts.

Illustrative Examples: Payment Collector, Collection Clerk, Installment Agent

43-3021 Billing and Posting Clerks and Machine Operators

Compile, compute, and record billing, accounting, statistical, and other numerical data for billing purposes. Prepare billing invoices for services rendered or for delivery or shipment of goods.

Illustrative Examples: Calculating Machine Operator, Invoice Control Clerk, Rating Clerk

43-3031 Bookkeeping, Accounting and Auditing Clerks

Compute, classify, and record numerical data to keep financial records complete. Perform any combination of routine calculating, posting, and verifying duties to obtain primary financial data for use in maintaining accounting records. May also check the accuracy of figures, calculations, and postings pertaining to business transactions recorded by other workers.

Illustrative Examples: Accounts Receivable Clerk, Ledger Clerk, Voucher Examiner

43-3051 Payroll and Timekeeping Clerks

Compile and post employee time and payroll data. May compute employees' time worked, production, and commission. May compute and post wages and deductions. May prepare paychecks.

Illustrative Examples: Attendance Clerk, Payroll Bookkeeper, Timekeeper

43-3061 Procurement Clerks

Compile information and records to draw up purchase orders for procurement of materials and services.

Illustrative Examples: Property and Supply Officer, Purchasing Clerk

43-3071 Tellers

Receive and pay out money. Keep records of money and negotiable instruments involved in a financial institution's various transactions.

Illustrative Examples: Foreign Exchange Clerk, Money Order Clerk, Securities Teller

43-4011 Brokerage Clerks

Perform clerical duties involving the purchase or sale of securities. Duties include writing orders for stock purchases and sales, computing transfer taxes, verifying stock transactions, accepting and delivering securities, tracking stock price fluctuations, computing equity, distributing dividends, and keeping records of daily transactions and holdings.

Illustrative Examples: Portfolio Assistant, Dividend Clerk, Telephone Quotation Clerk

43-4021 Correspondence Clerks

Compose letters in reply to requests for merchandise, damage claims, credit and other information, delinquent accounts, incorrect billings, or unsatisfactory services. Duties may include gathering data to formulate reply and typing correspondence.

Illustrative Examples: Collection Correspondent, Fan Mail Editor

43-4031 Court, Municipal and License Clerks

Perform clerical duties in courts of law, municipalities, and governmental licensing agencies and bureaus. May prepare docket of cases to be called; secure information for judges and court; prepare draft agendas or bylaws for town or city council; answer official correspondence; keep fiscal records and accounts; issue licenses or permits; record data, administer tests, or collect fees. Include chief clerks with "Managers, All Other" (11-9199).

Illustrative Examples: Circuit Court Clerk, Warrant Clerk

43-4041 Credit Authorizers, Checkers and Clerks

Authorize credit charges against customers' accounts. Investigate history and credit standing of individuals or business establishments applying for credit. May interview applicants to obtain personal and financial data; determine credit worthiness; process applications; and notify customers of acceptance or rejection of credit.

Illustrative Examples: Credit Interviewer, Credit Rating Inspector, Loan Adjuster

43-4051 Customer Service Representatives

Interact with customers to provide information in response to inquiries about products and services and to handle and resolve complaints. Exclude individuals whose duties are primarily sales or repair.

Illustrative Examples: Complaint Adjuster, Passenger Relations Representative, Telephone Service Adviser

43-4071 File Clerks

File correspondence, cards, invoices, receipts, and other records in alphabetical or numerical order or according to the filing system used. Locate and remove material from file when requested.

Illustrative Examples: Computer Tape Librarian, Document Clerk, Records Custodian

43-4081 Hotel, Motel and Resort Desk Clerks

Accommodate hotel, motel, and resort patrons by registering and assigning rooms to guests, issuing room keys, transmitting and receiving messages, keeping records of occupied rooms and guests' accounts, making and confirming reservations, and presenting statements to and collecting payments from departing guests.

Illustrative Examples: Register Clerk, Room Clerk

43-4111 Interviewers, Except Eligibility and Loan

Interview persons by telephone, mail, in person, or by other means for the purpose of completing forms, applications, or questionnaires. Ask specific questions, record answers, and assist persons with completing form. May sort, classify, and file forms.

Illustrative Examples: Census Taker, Market Research Interviewer, Outpatient Admitting Clerk

43-4121 Library Assistants, Clerical

Compile records, sort and shelve books, and issue and receive library materials such as pictures, cards, slides and microfilm. Locate library materials for loan and replace material in shelving area, stacks, or files according to identification number and title. Register patrons to permit them to borrow books, periodicals, and other library materials.

Illustrative Examples: Braille and Talking Books Clerk, Circulation Clerk, Microfilm Clerk

43-4131 Loan Interviewers and Clerks

Interview loan applicants to elicit information; investigate applicants' backgrounds and verify references; prepare loan request papers; and forward findings, reports, and documents to appraisal department. Review loan papers to ensure completeness, and complete transactions between loan establishment, borrowers, and sellers upon approval of loan.

Illustrative Examples: Loan Closer, Loan Processor, Mortgage Clerk

43-4141 New Accounts Clerks

Interview persons desiring to open bank accounts. Explain banking services available to prospective customers and assist them in preparing application form.

Illustrative Example: Banking Services Clerk

43-4151 Order Clerks

Receive and process incoming orders for materials, merchandise, classified ads, or services such as repairs, installations, or rental of facilities. Duties include informing customers of receipt, prices, shipping dates, and delays; preparing contracts; and handling complaints. Exclude "Dispatchers, Except Police, Fire, and Ambulance" (43-5032) who both dispatch and take orders for services.

Illustrative Examples: Catalogue Clerk, Subscription Clerk, Classified Advertisement Clerk

43-4161 Human Resources Assistants, Except Payroll and Timekeeping

Compile and keep personnel records. Record data for each employee, such as address, weekly earnings, absences, amount of sales or production, supervisory reports on ability, and date of and reason for termination. Compile and type reports from employment records. File employment records. Search employee files and furnish information to authorized persons.

Illustrative Example: Personnel Clerk

43-4171 Receptionists and Information Clerks

Answer inquiries and obtain information for general public, customers, visitors, and other interested parties. Provide information regarding activities conducted at establishment; location of departments, offices, and employees within organization. Exclude "Switchboard Operators, Including Answering Service" (43-2011).

Illustrative Examples: Appointment Clerk, Front Desk Clerk, Referral and Information Aide

43-4181 Reservation and Transportation Ticket Agents and Travel Clerks

Make and confirm reservations and sell tickets to passengers and for large hotel or motel chains. May check baggage and direct passengers to designated concourse, pier, or track; make reservations, deliver tickets, arrange for visas, contact individuals and groups to inform them of package tours, or provide tourists with travel information, such as points of interest, restaurants, rates, and emergency service. Exclude "Travel Agents" (41-3041), "Hotel, Motel and Resort Desk Clerks" (43-4081), and "Cashiers" (41-2011) who sell tickets for local transportation.

Illustrative Examples: Ticket Clerk, Hotel Reservationist, Gate Agent

43-5021 Couriers and Messengers

Pick up and carry messages, documents, packages, and other items between offices or departments within an establishment or to other business concerns, traveling by foot, bicycle, motorcycle, automobile, or public conveyance. Exclude "Truck Drivers, Light or Delivery Services" (53-3033).

Illustrative Examples: Message Delivery Clerk, Telegraph Messenger

43-5031 Police, Fire and Ambulance Dispatchers

Receive complaints from public concerning crimes and police emergencies. Broadcast orders to police patrol units in vicinity of complaint to investigate. Operate radio, telephone, or computer equipment to receive reports of fires and medical emergencies and relay information or orders to proper officials.

Illustrative Examples: 911 Operator, Emergency Operator, Public Safety Dispatcher

43-5032 Dispatchers, Except Police, Fire and Ambulance

Schedule and dispatch workers, work crews, equipment, or service vehicles for conveyance of materials, freight, or passengers, or for normal installation, service, or emergency repairs rendered outside the place of business. Duties may include using radio, telephone, or computer to transmit assignments and compiling statistics and reports on work progress.

Illustrative Examples: Security Dispatcher, Repair Service Dispatcher, Taxicab Dispatcher

43-5041 Meter Readers, Utilities

Read meter and record consumption of electricity, gas, water, or steam.

Illustrative Examples: Electric Meter Reader, Meter Record Clerk, Water Meter Reader

43-5051 Postal Service Clerks

Perform any combination of tasks in a post office, such as receive letters and parcels; sell postage and revenue stamps, postal cards, and stamped envelopes; fill out and sell money orders; place mail in pigeon holes of mail rack or in bags according to state, address, or other scheme; and examine mail for correct postage.

Illustrative Examples: Parcel Post Clerk, Special Delivery Clerk, Stamp Clerk

43-5052 Postal Service Mail Carriers

Sort mail for delivery. Deliver mail on established route by vehicle or on foot.

Illustrative Examples: Letter Carrier, Mail Deliverer, Route Carrier

43-5053 Postal Service Mail Sorters, Processors and Processing Machine Operators

Prepare incoming and outgoing mail for distribution. Examine, sort, and route mail by state, type of mail, or other scheme. Load, operate, and occasionally adjust and repair mail processing, sorting, and canceling machinery. Keep records of shipments, pouches, and sacks; and other duties related to mail handling within the postal service. Must complete a competitive exam. Exclude "Postal Service Clerks" (43-5051) and "Postal Service Mail Carriers" (43-5052).

Illustrative Examples: Mail Weigher, Mail Handler Sorting Mail

43-5061 Production, Planning and Expediting Clerks

Coordinate and expedite the flow of work and materials within or between departments of an establishment according to production schedule. Duties include reviewing and distributing production, work, and shipment schedules; conferring with department supervisors to determine progress of work and completion dates; and compiling reports on progress of work, inventory levels, costs, and production problems. Exclude "Weighers, Measurers, Checkers and Samplers, Recordkeeping" (43-5111).

Illustrative Examples: Assignment Agent, Production Dispatcher, Expediter

43-5071 Shipping, Receiving and Traffic Clerks

Verify and keep records on incoming and outgoing shipments. Prepare items for shipment. Duties include assembling, addressing, stamping, and shipping merchandise or material; receiving, unpacking, verifying and recording incoming merchandise or material; and arranging for the transportation of products. Exclude "Stock Clerks and Order Fillers" (43-5081) and "Weighers, Measurers, Checkers and Samplers, Recordkeeping" (43-5111).

Illustrative Examples: Receiver, Garment Sorter, Freight Separator

43-5081 Stock Clerks and Order Fillers

Receive, store, and issue sales floor merchandise, materials, equipment, and other items from stockroom, warehouse, or storage yard to fill shelves, racks, tables, or customers' orders. May mark prices on merchandise and set up sales displays. Exclude "Laborers and Freight, Stock and Material Movers, Hand" (53-7062), and "Shipping, Receiving and Traffic Clerks" (43-5071).

Illustrative Examples: Inventory Control Clerk, Tool Crib Attendant, Warehouse Clerk

43-5111 Weighers, Measurers, Checkers and Samplers, Recordkeeping

Weigh, measure, and check materials, supplies, and equipment for the purpose of keeping relevant records. Duties are primarily clerical by nature. Include workers who collect and keep record of samples of products or materials. Exclude production "Inspectors, Testers, Sorters, Samplers and Weighers" (51-9061).

Illustrative Examples: Counter, Inventory Checker, Scale Attendant

43-6011 Executive Secretaries and Administrative Assistants

Provide high-level administrative support by conducting research, preparing statistical reports, handling information requests, and performing clerical functions such as preparing correspondence, receiving visitors, arranging conference calls, and scheduling meetings. May also train and supervise lower-level clerical staff. Exclude "Secretaries" (43-6012 through 43-6014).

43-6012 Legal Secretaries

Perform secretarial duties utilizing legal terminology, procedures, and documents. Prepare legal papers and correspondence, such as summonses, complaints, motions, and subpoenas. May also assist with legal research.

43-6013 Medical Secretaries

Perform secretarial duties utilizing specific knowledge of medical terminology and hospital, clinic, or laboratory procedures. Duties include scheduling appointments, billing patients, and compiling and recording medical charts, reports, and correspondence.

Illustrative Examples: Psychiatric Secretary, Dental Secretary

43-6014 Secretaries, Except Legal, Medical and Executive

Perform routine clerical and administrative functions such as drafting correspondence, scheduling appointments, organizing and maintaining paper and electronic files, or providing information to callers. Exclude legal, medical, or executive secretaries and administrative assistants (43-6011 through 43-6013).

Illustrative Examples: Personal Secretary, Office Secretary, Receptionist Secretary

43-9011 Computer Operators

Monitor and control electronic computer and peripheral electronic data processing equipment to process business, scientific, engineering, and other data according to operating instructions. May enter commands at a computer terminal and set controls on computer and peripheral devices. Monitor and respond to operating and error messages. Exclude "Data Entry Keyers" (43-9021).

Illustrative Examples: Console Operator, Data Processing Clerk, Peripheral Equipment Operator

43-9021 Data Entry Keyers

Operate data entry device, such as keyboard or photo composing perforator. Duties may include verifying data and preparing materials for printing. Exclude "Word Processors and Typists" (43-9022).

Illustrative Examples: Keypunch Operator, Data Typist

43-9022 Word Processors and Typists

Use word processor/computer or typewriter to type letters, reports, forms, or other material from rough draft, corrected copy, or voice recording. May perform other clerical duties as assigned. Include composing data keyers. Exclude "Data Entry Keyers" (43-9021), "Secretaries and Administrative Assistants" (43-6011 through 43-6014), "Court Reporters" (23-2091), and "Medical Transcriptionists" (31-9094).

Illustrative Examples: Clerk Typist, Dictaphone Typist

43-9031 Desktop Publishers

Format typescript and graphic elements using computer software to produce publication-ready material.

Illustrative Examples: Computer Compositor, Electronic Pagination System Operator, Page Makeup System Operator

43-9041 Insurance Claims and Policy Processing Clerks

Process new insurance policies, modifications to existing policies, and claims forms. Obtain information from policyholders to verify the accuracy and completeness of information on claims forms, applications and related documents, and company records. Update existing policies and company records to reflect changes requested by policyholders and insurance company representatives. Exclude "Claims Adjusters, Examiners and Investigators" (13-1031).

Illustrative Examples: Claim Taker, Policy Issue Clerk, Underwriting Clerk

43-9051 Mail Clerks and Mail Machine Operators, Except Postal Service

Prepare incoming and outgoing mail for distribution. Use hand or mail handling machines to time stamp, open, read, sort, and route incoming mail; and address, seal, stamp, fold, stuff, and affix postage to outgoing mail or packages. Duties may also include keeping necessary records and completed forms.

Illustrative Examples: Addressing Machine Operator, Mail Distributor, Mail Opener

43-9061 Office Clerks, General

Perform duties too varied and diverse to be classified in any specific office clerical occupation, requiring limited knowledge of office management systems and procedures. Clerical duties may be assigned in accordance with the office procedures of individual establishments and may include a combination of answering telephones, bookkeeping, typing or word processing, stenography, office machine operation, and filing.

Illustrative Examples: Administrative Clerk, Office Assistant, Real Estate Clerk

43-9071 Office Machine Operators, Except Computer

Operate one or more of a variety of office machines, such as photocopying, photographic, and duplicating machines, or other office machines. Exclude "Computer Operators" (43-9011), "Mail Clerks and Mail Machine Operators" (43-9051) and "Billing and Posting Clerks and Machine Operators" (43-3021).

Illustrative Examples: Check Embosser, Coin Wrapping Machine Operator, Copy Machine Operator

43-9081 Proofreaders and Copy Markers

Read transcript or proof type setup to detect and mark for correction any grammatical, typographical, or compositional errors. Exclude workers whose primary duty is editing copy. Include proofreaders of Braille.

Illustrative Examples: Braille Proofreader, Copyreader

43-9111 Statistical Assistants

Compile and compute data according to statistical formulas for use in statistical studies. May perform actuarial computations and compile charts and graphs for use by actuaries. Include actuarial clerks.

Illustrative Examples: Tabulating Clerk, Compiler, Data Technician

Farming, Fishing and Forestry Occupations

45-1011 First-Line Supervisors/Managers of Farming, Fishing and Forestry Workers

Directly supervise and coordinate the activities of agricultural, forestry, aquacultural, and related workers. Exclude "First-Line Supervisors/Managers of Landscaping, Lawn Service and Groundskeeping Workers" (37-1012).

Illustrative Examples: Christmas Tree Farm Manager, Harvest Crew Supervisor, Fish Hatchery Supervisor

45-2041 Graders and Sorters, Agricultural Products

Grade, sort, or classify unprocessed food and other agricultural products by size, weight, color, or condition. Exclude "Agricultural Inspectors" (45-2011).

Illustrative Examples: Chicken Grader, Cotton Classer, Fruit Sorter

45-2091 Agricultural Equipment Operators

Drive and control farm equipment to till soil and to plant, cultivate, and harvest crops. May perform tasks, such as crop baling or hay bucking. May operate stationary equipment to perform postharvest tasks, such as husking, shelling, threshing, and ginning.

Illustrative Examples: Baler, Combine Operator, Tractor Driver

45-2092 Farmworkers and Laborers, Crop, Nursery and Greenhouse

Manually plant, cultivate, and harvest vegetables, fruits, nuts, horticultural specialties, and field crops. Use hand tools, such as shovels, trowels, hoes, tampers, pruning hooks, shears, and knives. Duties may include tilling soil and applying fertilizers; transplanting, weeding, thinning, or pruning crops; applying pesticides; cleaning, grading, sorting, packing and loading harvested products. May construct trellises, repair fences and farm buildings, or participate in irrigation activities. Exclude "Graders and Sorters, Agricultural Products" (45-2041). Exclude "Forest, Conservation, and Logging Workers" (45-4011 through 45-4029).

Illustrative Examples: Apple Picker, Tobacco Cutter, Vegetable Loader

45-2093 Farmworkers, Farm and Ranch Animals

Attend to live farm, ranch, or aquacultural animals that may include cattle, sheep, swine, goats, horses and other equines, poultry, finfish, shellfish, and bees. Attend to animals produced for animal products, such as meat, fur, skins, feathers, eggs, milk, and honey. Duties may include feeding, watering, herding, grazing, castrating, branding, debeaking, weighing, catching, and loading animals. May maintain records on animals; examine animals to detect diseases and injuries; assist in birth deliveries; and administer medications, vaccinations, or insecticides as appropriate. May clean and maintain animal housing areas. Include workers who shear wool from sheep, and collect eggs in hatcheries.

Illustrative Examples: Horse Groomer, Beekeeper, Livestock Feeder

45-4022 Logging Equipment Operators

Drive logging tractor or wheeled vehicle equipped with one or more accessories, such as bulldozer blade, frontal shear, grapple, logging arch, cable winches, hoisting rack, or crane boom, to fall trees, to skid, load, unload, or stack logs; or to pull stumps or clear brush.

Illustrative Examples: Log Hauler, Logging Tractor Operator, Skidder Driver

45-4023 Log Graders and Scalers

Grade logs or estimate the marketable content or value of logs or pulpwood in sorting yards, millpond, log deck, or similar locations. Inspect logs for defects or measure logs to determine volume. Exclude "Purchasing Agents and Buyers, Farm Products" (13-1021).

Illustrative Examples: Timber Estimator, Landing Scaler

Construction and Extraction Occupations

47-1011 First-Line Supervisors/Managers of Construction Trades and Extraction Workers

Directly supervise and coordinate activities of construction or extraction workers.

Illustrative Examples: Cement Contractor, Quarry Boss

47-2011 Boilermakers

Construct, assemble, maintain, and repair stationary steam boilers and boiler house auxiliaries. Align structures or plate sections to assemble boiler frame tanks or vats following blueprints. Work involves use of hand and power tools, plumb bobs, levels, wedges, dogs, or turnbuckles. Assist in testing assembled vessels. Direct cleaning of boilers and boiler furnaces. Inspect and repair boiler fittings, such as safety valves, regulators, automatic-control mechanisms, water columns, and auxiliary machines.

Illustrative Examples: Boiler Installer, Boiler Mechanic, Pressure Tester

47-2021 Brickmasons and Blockmasons

Lay and bind building materials, such as brick, structural tile, concrete block, cinder block, glass block, and terra-cotta block, with mortar and other substances to construct or repair walls, partitions, arches, sewers, and other structures. Exclude "Stonemasons" (47-2022). Classify installers of mortarless segmental concrete masonry wall units in "Landscaping and Groundskeeping Workers" (37-3011).

Illustrative Examples: Adobe Layer, Chimney Builder, Furnace Liner

47-2022 Stonemasons

Build stone structures, such as piers, walls, and abutments. Lay walks, curbstones, or special types of masonry for vats, tanks, and floors.

Illustrative Examples: Granite Setter, Monument Installer, Rock Mason

47-2031 Carpenters

Construct, erect, install, or repair structures and fixtures made of wood, such as concrete forms; building frameworks, including partitions, joists, studding, and rafters; wood stairways, window and door frames, and hardwood floors. May also install cabinets, siding, drywall and batt or roll insulation. Include brattice builders who build doors or brattices (ventilation walls or partitions) in underground passageways to control the proper circulation of air through the passageways and to the working places.

Illustrative Examples: Shipwright, Cabinetmaker, Wood Floor Layer

47-2044 Tile and Marble Setters

Apply hard tile, marble, and wood tile to walls, floors, ceilings, and roof decks.

Illustrative Examples: Ceramic Tile Installer, Hard Tile Setter, Marble Installer

47-2051 Cement Masons and Concrete Finishers

Smooth and finish surfaces of poured concrete, such as floors, walks, sidewalks, roads, or curbs using a variety of hand and power tools. Align forms for sidewalks, curbs, or gutters; patch voids; use saws to cut expansion joints. Classify installers of mortarless segmental concrete masonry wall units in "Landscaping and Groundskeeping Workers" (37-3011).

Illustrative Examples: Curb Builder, Concrete Floor Installer

47-2061 Construction Laborers

Perform tasks involving physical labor at building, highway, and heavy construction projects, tunnel and shaft excavations, and demolition sites. May operate hand and power tools of all types: air hammers, earth tampers, cement mixers, small mechanical hoists, surveying and measuring equipment, and a variety of other equipment and instruments. May clean and prepare sites, dig trenches, set braces to support the sides of excavations, erect scaffolding, clean up rubble and debris, and remove asbestos, lead, and other hazardous waste materials. May assist other craft workers. Exclude construction laborers who primarily assist a particular craft worker, and classify them under "Helpers, Construction Trades" (47-3011 through 47-3016).

Illustrative Examples: Air Hammer Operator, Asphalt Patcher, Construction Craft Laborer

47-2071 Paving, Surfacing and Tamping Equipment Operators

Operate equipment used for applying concrete, asphalt, or other materials to roadbeds, parking lots, or airport runways and taxiways, or equipment used for tamping gravel, dirt, or other materials. Include concrete and asphalt paving machine operators, form tampers, tamping machine operators, and stone spreader operators.

Illustrative Examples: Asphalt Spreader Operator, Blacktop Machine Operator, Road Grader

47-2073 Operating Engineers and Other Construction Equipment Operators

Operate one or several types of power construction equipment, such as motor graders, bulldozers, scrapers, compressors, pumps, derricks, shovels, tractors, or front-end loaders to excavate, move, and grade earth, erect structures, or pour concrete or other hard surface pavement. May repair and maintain equipment in addition to other duties. Exclude "Crane and Tower Operators" (53-7021) and equipment operators who work in extraction or other non-construction industries.

Illustrative Examples: Bulldozer Operator, Power Grader Operator, Steam Shovel Operator

47-2081 Drywall and Ceiling Tile Installers

Apply plasterboard or other wallboard to ceilings or interior walls of buildings. Apply or mount acoustical tiles or blocks, strips, or sheets of shock-absorbing materials to ceilings and walls of buildings to reduce or reflect sound. Materials may be of decorative quality. Include lathers who fasten wooden, metal, or rockboard lath to walls, ceilings or partitions of buildings to provide support base for plaster, fireproofing, or acoustical material. Exclude "Carpenters" (47-2031), and "Tile and Marble Setters" (47-2044).

Illustrative Examples: Acoustical Carpenter, Lather, Sheet Rock Hanger

47-2111 Electricians

Install, maintain, and repair electrical wiring, equipment, and fixtures. Ensure that work is in accordance with relevant codes. May install or service streetlights, intercom systems, or electrical control systems. Exclude "Security and Fire Alarm Systems Installers" (49-2098).

Illustrative Examples: Electrical Sign Servicer, House Wirer, Chief Electrician

47-2121 Glaziers

Install glass in windows, skylights, storefronts, and display cases, or on surfaces, such as building fronts, interior walls, ceilings, and tabletops.

Illustrative Examples: Window Glass Installer, Plate Glass Installer, Stained Glass Glazier

47-2130 Insulation Workers

This broad occupation includes the following two detailed occupations:

47-2131 (SOC code only) Insulation Workers, Floor, Ceiling, and Wall: Line and cover structures with insulating materials. May work with batt, roll, or blown insulation materials.

47-2132 (SOC code only) Insulation Workers, Mechanical: Apply insulating materials to pipes or ductwork, or other mechanical systems in order to help control and maintain temperature.

Illustrative Examples: Fiberglass Insulation Installer, Composition Weatherboard Installer, Boiler Coverer, Pipe Coverer

47-2141 Painters, Construction and Maintenance

Paint walls, equipment, buildings, bridges, and other structural surfaces, using brushes, rollers, and spray guns. May remove old paint to prepare surface prior to painting. May mix colors or oils to obtain desired color or consistency. Exclude "Paperhangers" (47-2142).

Illustrative Examples: Bridge Painter, Traffic Line Painter, House Painter

47-2151 Pipelayers

Lay pipe for storm or sanitation sewers, drains, and water mains. Perform any combination of the following tasks: grade trenches or culverts, position pipe, or seal joints. Exclude "Welders, Cutters, Solderers and Brazers" (51-4121).

Illustrative Examples: Trench Pipe Layer, Pipe Liner, Sewer Connector

47-2152 Plumbers, Pipefitters and Steamfitters

Assemble, install, alter, and repair pipelines or pipe systems that carry water, steam, air, or other liquids or gases. May install heating and cooling equipment and mechanical control systems.

Illustrative Examples: Gas Line Installer, Hot Water Heater Installer, Sprinkling System Installer

47-2171 Reinforcing Iron and Rebar Workers

Position and secure steel bars or mesh in concrete forms in order to reinforce concrete. Use a variety of fasteners, rod-bending machines, blowtorches, and hand tools. Include rod busters.

Illustrative Examples: Reinforcing Rod Layer, Rod Buster, Steel Tier

47-2181 Roofers

Cover roofs of structures with shingles, slate, asphalt, aluminum, wood, and related materials. May spray roofs, sidings, and walls with material to bind, seal, insulate, or soundproof sections of structures.

Illustrative Examples: Slater, Hot Tar Roofer, Terra-cotta Roofer

47-2211 Sheet Metal Workers

Fabricate, assemble, install, and repair sheet metal products and equipment, such as ducts, control boxes, drainpipes, and furnace casings. Work may involve any of the following: setting up and operating fabricating machines to cut, bend, and straighten sheet metal; shaping metal over anvils, blocks, or forms using hammer; operating soldering and welding equipment to join sheet metal parts; inspecting, assembling, and smoothing seams and joints of burred surfaces. Include sheet metal duct installers who install prefabricated sheet metal ducts used for heating, air conditioning, or other purposes.

Illustrative Examples: Duct Installer, Metal Work, Tinsmith

47-3011 Helpers, Brickmasons, Blockmasons, Stonemasons and Tile and Marble Setters

Help brickmasons, blockmasons, stonemasons, or tile and marble setters by performing duties of lesser skill. Duties include using, supplying or holding materials or tools, and cleaning work area and equipment. Exclude apprentice workers and report them with the appropriate skilled construction trade occupation (47-2011 through 47-2221). Exclude construction laborers who do not primarily assist brickmasons, blockmasons, and stonemasons or tile and marble setters, and classify them under "Construction Laborers" (47-2061).

Illustrative Examples: Brick Carrier, Brick Washer, Tile Layer's Helper

47-3012 Helpers, Carpenters

Help carpenters by performing duties of lesser skill. Duties include using, supplying or holding materials or tools, and cleaning work area and equipment. Exclude apprentice workers and report them with the appropriate skilled construction trade occupation (47-2011 through 47-2221). Exclude construction laborers who do not primarily assist carpenters, and classify them under "Construction Laborers" (47-2061).

Illustrative Examples: Carpenter's Mate, Joiner's Helper, Cabinetmaker's Helper

47-3014 Helpers, Painters, Paperhangers, Plasterers and Stucco Masons

Help painters, paperhangers, plasterers, or stucco masons by performing duties of lesser skill. Duties include using, supplying or holding materials or tools, and cleaning work area and equipment. Exclude apprentice workers and report them with the appropriate skilled construction trade occupation (47-2011 through 47-2221). Exclude construction laborers who do not primarily assist painters, paperhangers, plasterers, or stucco masons, and classify them under "Construction Laborers" (47-2061).

Illustrative Example: Plaster Tender

47-4011 Construction and Building Inspectors

Inspect structures using engineering skills to determine structural soundness and compliance with specifications, building codes, and other regulations. Inspections may be general in nature or may be limited to a specific area, such as electrical systems or plumbing.

Illustrative Examples: Highway Inspector, Electrical Inspector, Architectural Inspector

47-4041 Hazardous Materials Removal Workers

Identify, remove, pack, transport, or dispose of hazardous materials, including asbestos, lead-based paint, waste oil, fuel, transmission fluid, radioactive materials, contaminated soil, etc. Specialized training and certification in hazardous materials handling or a confined entry permit are generally required. May operate earthmoving equipment or trucks.

Illustrative Examples: Asbestos Remover, Irradiated Fuel Handler, Hazardous Waste Remover

47-4051 Highway Maintenance Workers

Maintain highways, municipal and rural roads, airport runways, and rights-of-way. Duties include patching broken or eroded pavement, repairing guardrails, highway markers, and snow fences. May also mow or clear brush from along road or plow snow from roadway. Exclude "Tree Trimmers and Pruners" (37-3013).

Illustrative Examples: Snowplow Operator, Road Patcher, Road Sign Installer

47-4061 Rail-Track Laying and Maintenance Equipment Operators

Lay, repair, and maintain track for standard or narrow-gauge railroad equipment used in regular railroad service or in plant yards, quarries, sand and gravel pits, and mines. Include ballast cleaning machine operators and roadbed tamping machine operators.

Illustrative Examples: Ballast Cleaning Machine Operator, Track Surfacing Machine Operator, Track Dresser

47-5011 Derrick Operators, Oil and Gas

Rig derrick equipment and operate pumps to circulate mud through drill hole.

Illustrative Examples: Rotary Derrick Operator, Well Service Derrick Worker

47-5012 Rotary Drill Operators, Oil and Gas

Set up or operate a variety of drills to remove petroleum products from the earth and to find and remove core samples for testing during oil and gas exploration.

Illustrative Examples: Cable Tool Operator, Core Driller, Well Driller

47-5013 Service Unit Operators, Oil, Gas and Mining

Operate equipment to increase oil flow from producing wells or to remove stuck pipe, casing, tools, or other obstructions from drilling wells. May also perform similar services in mining exploration operations. Include fishing tool technicians.

Illustrative Examples: Fishing Tool Operator, Well Cleaner

47-5021 Earth Drillers, Except Oil and Gas

Operate a variety of drills--such as rotary, churn, and pneumatic--to tap subsurface water and salt deposits, to remove core samples during mineral exploration or soil testing, and to facilitate the use of explosives in mining or construction. May use explosives. Include horizontal and earth boring machine operators.

Illustrative Examples: Auger Operator, Earth Boring Machine Operator, Tunneling Machine Operator

47-5071 Roustabouts, Oil and Gas

Assemble or repair oil field equipment using hand and power tools. Perform other tasks as needed.

Illustrative Examples: Connection Worker, Oil Field Laborer

47-5081 Helpers, Extraction Workers

Help extraction craft workers, such as earth drillers, blasters and explosives workers, derrick operators, and mining machine operators, by performing duties of lesser skill. Duties include supplying equipment or cleaning work area.

Exclude apprentice workers and report them with the appropriate extraction trade occupation (47-5011 through 47-5099).

Illustrative Examples: Blaster's Helper, Tunnel Mucker, Mining Helper

Installation, Maintenance and Repair Occupations

49-1011 First-Line Supervisors/Managers of Mechanics, Installers and Repairers

Supervise and coordinate the activities of mechanics, installers, and repairers. Exclude team or work leaders.

Illustrative Examples: Marine Service Manager, Ground Crew Chief, Engine Repair Supervisor

49-2011 Computer, Automated Teller and Office Machine Repairers

Repair, maintain, or install computers, word processing systems, automated teller machines, and electronic office machines, such as duplicating and fax machines.

Illustrative Examples: ATM Specialist, Cash Register Servicer, Computer Installer

49-2022 Telecommunications Equipment Installers and Repairers, Except Line Installers

Set up, rearrange, or remove switching and dialing equipment used in central offices. Service or repair telephones and other communication equipment on customers' property. May install equipment in new locations or install wiring and telephone jacks in buildings under construction.

Illustrative Examples: Central Office Equipment Installer, Electronics Installer, Exchange Mechanic

49-2092 Electric Motor, Power Tool and Related Repairers

Repair, maintain, or install electric motors, wiring, or switches.

Illustrative Examples: Armature Winder, Generator Mechanic, Electric Golf Cart Repairer

49-2094 Electrical and Electronics Repairers, Commercial and Industrial Equipment

Repair, test, adjust, or install electronic equipment, such as industrial controls, transmitters, and antennas. Exclude "Avionics Technicians" (49-2091), "Electronic Equipment Installers and Repairers, Motor Vehicles" (49-2096), and "Electrical and Electronics Installers and Repairers, Transportation Equipment" (49-2093).

Illustrative Examples: Missile Pad Mechanic, Radar Technician, Amplifier Mechanic

49-2095 Electrical and Electronics Repairers, Powerhouse, Substation and Relay

Inspect, test, repair, or maintain electrical equipment in generating stations, substations, and in-service relays.

Illustrative Examples: Powerhouse Electrician, Relay Technician, Power Transformer Repairer

49-2097 Electronic Home Entertainment Equipment Installers and Repairers

Repair, adjust, or install audio or television receivers, stereo systems, camcorders, video systems, or other electronic home entertainment equipment.

Illustrative Examples: Electric Organ Technician, Television Mechanic, Satellite Dish Installer

49-3011 (SOC code only) Aircraft Mechanics and Service Technicians

This broad occupation includes the following two occupations:

49-3012 Aircraft Mechanics and Service Technicians, FAA certified**49-3013 Aircraft Mechanics and Service Technicians, not FAA certified**

Diagnose, adjust, repair, or overhaul aircraft engines and assemblies, such as hydraulic and pneumatic systems. Include helicopter and aircraft engine specialists. Exclude "Avionics Technician" (49-2091).

Illustrative Examples: Aircraft Engine Specialist, Flight Test Mechanic, Airframe Mechanic

49-3021 Automotive Body and Related Repairers

Repair and refinish automotive vehicle bodies and straighten vehicle frames. Exclude "Painters, Transportation Equipment" (51-9122) and "Automotive Glass Installers and Repairers" (49-3022).

Illustrative Examples: Auto Body Customizer, Collision Mechanic, Frame Straightener

49-3022 Automotive Glass Installers and Repairers

Replace or repair broken windshields and window glass in motor vehicles.

Illustrative Examples: Auto Glass Mechanic, Windshield Installer, Auto Glass Fitter

49-3023 Automotive Service Technicians and Mechanics

Diagnose, adjust, repair, or overhaul automotive vehicles. Exclude "Automotive Body and Related Repairers" (49-3021), "Bus and Truck Mechanics and Diesel Engine Specialists" (49-3031), and "Electronic Equipment Installers and Repairers, Motor Vehicles" (49-2096).

Illustrative Examples: Auto Brake Mechanic, Fuel Injection Servicer, Auto Transmission Specialist

49-3031 Bus and Truck Mechanics and Diesel Engine Specialists

Diagnose, adjust, repair, or overhaul trucks, buses, and all types of diesel engines. Include mechanics working primarily with automobile diesel engines.

Illustrative Examples: Tractor Trailer Mechanic, Diesel Mechanic, Farm Equipment Engine Mechanic

49-3041 Farm Equipment Mechanics

Diagnose, adjust, repair, or overhaul farm machinery and vehicles, such as tractors, harvesters, dairy equipment, and irrigation systems. Exclude "Bus and Truck Mechanics and Diesel Engine Specialists" (49-3031).

Illustrative Examples: Irrigation Equipment Mechanic, Dairy Equipment Installer

49-3042 Mobile Heavy Equipment Mechanics, Except Engines

Diagnose, adjust, repair, or overhaul mobile mechanical, hydraulic, and pneumatic equipment, such as cranes, bulldozers, graders, and conveyors, used in construction, logging, and surface mining. Exclude "Rail Car Repairers" (49-3043) and "Bus and Truck Mechanics and Diesel Engine Specialists" (49-3031).

Illustrative Examples: Construction Equipment Mechanic, Forklift Mechanic, Bulldozer Mechanic

49-3051 Motorboat Mechanics

Repair and adjust electrical and mechanical equipment of gasoline or diesel powered inboard, inboard-outboard, or outboard boat engines. Exclude "Diesel Engine Specialists" (49-3031).

Illustrative Example: Outboard Motor Mechanic

49-3052 Motorcycle Mechanics

Diagnose, adjust, repair, or overhaul motorcycles, scooters, mopeds, dirt bikes, or similar motorized vehicles.

Illustrative Examples: Motor Scooter Mechanic, Motorcycle Repairer

49-3053 Outdoor Power Equipment and Other Small Engine Mechanics

Diagnose, adjust, repair, or overhaul small engines used to power lawn mowers, chain saws, and related equipment.

Illustrative Examples: Chain Saw Mechanic, Lawn Mower Repairer, Snowmobile Mechanic

49-3092 Recreational Vehicle Service Technicians

Diagnose, inspect, adjust, repair, or overhaul recreational vehicles including travel trailers. May specialize in maintaining gas, electrical, hydraulic, plumbing, or chassis/towing systems as well as repairing generators, appliances, and interior components. Include workers who perform customized van conversions. Exclude "Automotive Service Technicians and Mechanics" (49-3023) and "Bus and Truck Mechanics and Diesel Engine Specialists" (49-3031) who also work on recreation vehicles.

Illustrative Example: RV Mechanic

49-3093 Tire Repairers and Changers

Repair and replace tires.

Illustrative Examples: Tire Balancer, Tire Fixer

49-9011 Mechanical Door Repairers

Install, service, or repair opening and closing mechanisms of automatic doors and hydraulic door closers. Include garage door mechanics.

Illustrative Example: Automatic Door Mechanic

49-9021 Heating, Air Conditioning and Refrigeration Mechanics and Installers

Install or repair heating, central air conditioning, or refrigeration systems, including oil burners, hot-air furnaces, and heating stoves.

Illustrative Examples: Furnace Converter, Gas Furnace Installer, Oil Burner Repairer

49-9031 Home Appliance Repairers

Repair, adjust, or install all types of electric or gas household appliances, such as refrigerators, washers, dryers, and ovens.

Illustrative Examples: Window Air Conditioner Mechanic, Vacuum Cleaner Repairer, Washing Machine Installer

49-9041 Industrial Machinery Mechanics

Repair, install, adjust, or maintain industrial production and processing machinery or refinery and pipeline distribution systems. Exclude "Millwrights" (49-9044), "Mobile Heavy Equipment Mechanics, Except Engines" (49-3042), and "Maintenance Workers, Machinery" (49-9043) who perform only routine tasks.

Illustrative Examples: Conveyor Belt Installer, Turbine Mechanic, Hydroelectric Machinery Mechanic

49-9042 Maintenance and Repair Workers, General

Perform work involving the skills of two or more maintenance or craft occupations to keep machines, mechanical equipment, or the structure of an establishment in repair. Duties may involve pipe fitting; boiler making; insulating; welding; machining; carpentry; repairing electrical or mechanical equipment; installing, aligning, and balancing new equipment; and repairing buildings, floors, or stairs. Exclude "Maintenance Workers, Machinery" (49-9043).

Illustrative Examples: Building Maintenance Repairer, Troubleshooting Mechanic, Mechanical Adjuster

49-9043 Maintenance Workers, Machinery

Lubricate machinery, change parts, or perform other routine machinery maintenance. Exclude "Maintenance and Repair Workers, General" (49-9042).

Illustrative Examples: Belt Repairer, Grease Packer Machine Oiler

49-9044 Millwrights

Install, dismantle, or move machinery and heavy equipment according to layout plans, blueprints, or other drawings.

Illustrative Examples: Machine Erector, Machine Rigger, Machinery Dismantler

49-9051 Electrical Power-Line Installers and Repairers

Install or repair cables or wires used in electrical power or distribution systems. May erect poles and light or heavy duty transmission towers. Exclude "Electrical and Electronics Repairers, Powerhouse, Substation and Relay" (49-2095).

Illustrative Examples: Pole Climber, High Tension Tester, Electric Utility Wire Stretcher

49-9052 Telecommunications Line Installers and Repairers

String and repair telephone and television cable, including fiber optics and other equipment for transmitting messages or television programming.

Illustrative Examples: Telecommunications Cable Splicer, Telecommunications Wire Stretcher, Cable Television Installer

49-9062 Medical Equipment Repairers

Test, adjust, or repair biomedical or electromedical equipment.

Illustrative Examples: Biomedical Equipment Technician, Hearing Aid Mechanic, Surgical Instrument Mechanic

49-9091 Coin, Vending and Amusement Machine Servicers and Repairers

Install, service, adjust, or repair coin, vending, or amusement machines including video games, juke boxes, pinball machines, or slot machines.

Illustrative Examples: Cigarette Machine Mechanic, Slot Machine Mechanic, Video Game Mechanic

49-9094 Locksmiths and Safe Repairers

Repair and open locks; make keys; change locks and safe combinations; and install and repair safes.

Illustrative Examples: Key Maker, Vault Service Mechanic, Lock Expert

49-9098 Helpers, Installation, Maintenance and Repair Workers

Help installation, maintenance, and repair workers in maintenance, parts replacement, and repair of vehicles, industrial machinery, and electrical and electronic equipment. Perform duties, such as furnishing tools, materials, and supplies to other workers; cleaning work area, machines, and tools; and holding materials or tools for other workers.

Illustrative Examples: Mechanic's Helper, Diver's Helper, Blacksmith's Helper

Production Occupations

51-1011 First-Line Supervisors/Managers of Production and Operating Workers

Supervise and coordinate the activities of production and operating workers, such as inspectors, precision workers, machine setters and operators, assemblers, fabricators, and plant and system operators. Exclude team or work leaders.

Illustrative Examples: Laundromat Manager, Station Chief, Assembly Line Supervisor

51-2021 Coil Winders, Tapers and Finishers

Wind wire coils used in electrical components, such as resistors and transformers, and in electrical equipment and instruments, such as field cores, bobbins, armature cores, electrical motors, generators, and control equipment.

Illustrative Examples: Coil Builder, Motor Winder, Wire Coiler

51-2022 Electrical and Electronic Equipment Assemblers

Assemble or modify electrical or electronic equipment, such as computers, test equipment telemetering systems, electric motors, and batteries.

Illustrative Examples: Anode Builder, Battery Builder, Industrial Equipment Wirer

51-2041 Structural Metal Fabricators and Fitters

Fabricate, lay out, position, align, and fit parts of structural metal products.

Illustrative Examples: Manufacturing Ornamental Metal Worker, Metal Box Maker, Protector Plate Attacher

51-2092 Team Assemblers

Work as part of a team having responsibility for assembling an entire product or component of a product. Team assemblers can perform all tasks conducted by the team in the assembly process and rotate through all or most of them rather than being assigned to a specific task on a permanent basis. May participate in making management decisions affecting the work. Team leaders who work as part of the team should be included. Exclude assemblers (51-2011 through 51-2099) who continuously perform the same task.

51-3011 Bakers

Mix and bake ingredients according to recipes to produce breads, rolls, cookies, cakes, pies, pastries, or other baked goods. Include pastry chefs in restaurants and hotels with "Chefs and Head Cooks" (35-1011).

Illustrative Examples: Cake Maker, Head Baker, Pastry Finisher

51-3021 Butchers and Meat Cutters

Cut, trim, or prepare consumer-sized portions of meat for use or sale in retail establishments.

Illustrative Examples: Carver, Meat Department Manager, Cleaver

51-3022 Meat, Poultry and Fish Cutters and Trimmers

Use hand tools to perform routine cutting and trimming of meat, poultry, and fish.

Illustrative Examples: Calf Skinner, Eviscerator, Filleter

51-3023 Slaughterers and Meat Packers

Work in slaughtering, meatpacking, or wholesale establishments performing precision functions involving the preparation of meat. Work may include specialized slaughtering tasks, cutting standard or premium cuts of meat for marketing, making sausage, or wrapping meats. Exclude "Meat, Poultry and Fish Cutters and Trimmers" (51-3022) who perform routine, lower-skilled meat cutting.

Illustrative Examples: Hog Sticker, Shactor, Beef Splitter

51-3092 Food Batchmakers

Set up and operate equipment that mixes or blends ingredients used in the manufacturing of food products. Include candy makers and cheese makers.

Illustrative Examples: Candy Maker, Honey Blender, Peanut Butter Maker

51-4022 Forging Machine Setters, Operators and Tenders, Metal and Plastic

Set up, operate, or tend forging machines to taper, shape, or form metal or plastic parts.

Illustrative Examples: Cold Header Operator, Swager Operator, Drop Hammer Operator

51-4031 Cutting, Punching and Press Machine Setters, Operators and Tenders, Metal and Plastic

Set up, operate, or tend machines to saw, cut, shear, slit, punch, crimp, notch, bend, or straighten metal or plastic material.

Illustrative Examples: Perforator Operator, Crimping Machine Operator, Four Slide Machine Setter

51-4033 Grinding, Lapping, Polishing and Buffing Machine Tool Setters, Operators and Tenders, Metal and Plastic

Set up, operate, or tend grinding and related tools that remove excess material or burrs from surfaces, sharpen edges or corners, or buff, hone, or polish metal or plastic work pieces.

Illustrative Examples: Barrel Polisher, Jewel Bearing Facer, Metal Filer

51-4041 Machinists

Set up and operate a variety of machine tools to produce precision parts and instruments. Include precision instrument makers who fabricate, modify, or repair mechanical instruments. May also fabricate and modify parts to make or repair machine tools or maintain industrial machines, applying knowledge of mechanics, shop mathematics, metal properties, layout, and machining procedures.

Illustrative Examples: Electrical Instrument Maker, Machine Fitter

51-4081 Multiple Machine Tool Setters, Operators and Tenders, Metal and Plastic

Set up, operate, or tend more than one type of cutting or forming machine tool or robot.

Illustrative Examples: Machine Tool Operator, Combination Machine Tool Setter, Metal and Plastic Transfer Machine Operator

51-4121 Welders, Cutters, Solderers and Brazers

Use hand-welding, flame-cutting, hand soldering, or brazing equipment to weld or join metal components or to fill holes, indentations, or seams of fabricated metal products.

Illustrative Examples: Acetylene Burner, Arc Welder, Blowtorch Operator

51-4194 Tool Grinders, Filers and Sharpeners

Perform precision smoothing, sharpening, polishing, or grinding of metal objects.

Illustrative Examples: Die Polisher, Precision Honer, Tool Maintenance Worker

51-5011 Bindery Workers

Set up or operate binding machines that produce books and other printed materials. Include hand bindery workers.

Exclude "Bookbinders" (51-5012).

Illustrative Examples: Book Coverer, Stitching Machine Operator, Bookbinding Machine Operator

51-5021 Job Printers

Set type according to copy; operate press to print job order; and read the proof for errors and clarity of impression, and correct imperfections. Job printers are often found in small establishments where work combines several job skills.

Illustrative Examples: Job Press Operator, Apprentice Job Printer

51-5022 Prepress Technicians and Workers

Set up and prepare material for printing presses. Include prepress functions, such as compositing, typesetting, layout, pasteup, camera operating, scanning, film stripping, and photoengraving.

Illustrative Examples: Compositor, Lithographer, Photoengraving Etcher

51-5023 Printing Machine Operators

Set up or operate various types of printing machines, such as offset, letterset, intaglio, or gravure presses or screen printers to produce print on paper or other materials.

Illustrative Examples: Bag Printer, Offset Press Operator, Lithoplate Maker

51-6011 Laundry and Dry-Cleaning Workers

Operate or tend washing or dry-cleaning machines to wash or dry-clean industrial or household articles, such as cloth garments, suede, leather, furs, blankets, draperies, fine linens, rugs, and carpets. Include spotters and dyers of these articles.

Illustrative Examples: Laundry Carpet Cleaner, Silk Spotter, Washing Machine Operator

51-6021 Pressers, Textile, Garment and Related Materials

Press or shape articles by hand or machine.

Illustrative Examples: Clothes Ironer, Garment Steamer, Steam Operator

51-6031 Sewing Machine Operators

Operate or tend sewing machines to join, reinforce, decorate, or perform related sewing operations in the manufacture of garment or nongarment products.

Illustrative Examples: Blind Stitch Machine Operator, Loop Tacker, Hemmer

51-6052 Tailors, Dressmakers and Custom Sewers

Design, make, alter, repair, or fit garments.

Illustrative Examples: Coat Maker, Hand Finisher, Except Toy Shop Tailor

51-6093 Upholsterers

Make, repair, or replace upholstery for household furniture or transportation vehicles.

Illustrative Examples: Car Seat Maker, Casket Coverer, Auto Top Mechanic

51-7011 Cabinetmakers and Bench Carpenters

Cut, shape, and assemble wooden articles or set up and operate a variety of woodworking machines, such as power saws, jointers, and mortisers to surface, cut, or shape lumber or to fabricate parts for wood products. Exclude "Woodworking Machine Setters, Operators and Tenders" (51-7041 through 51-7042) who specialize in one or a limited number of machine phases.

Illustrative Examples: Marquetry Worker, Antique Furniture Repairer, Wood Machinist

51-7021 Furniture Finishers

Shape, finish, and refinish damaged, worn, or used furniture or new high-grade furniture to specified color or finish.

Illustrative Examples: Furniture Polisher, Refinisher, Wood Grainer

51-7041 Sawing Machine Setters, Operators and Tenders, Wood

Set up, operate, or tend wood sawing machines. Include head sawyers.

Illustrative Examples: Crozer Operator, Sawyer, Wood Cutter

51-7042 Woodworking Machine Setters, Operators and Tenders, Except Sawing

Set up, operate, or tend woodworking machines, such as drill presses, lathes, shapers, routers, sanders, planers, and wood nailing machines.

Illustrative Examples: Frazer, Molding Sander

51-8012 Power Distributors and Dispatchers

Coordinate, regulate, or distribute electricity or steam.

Illustrative Examples: Feeder Switchboard Operator, Electric and Gas Load Dispatcher, Substation Operator

51-8021 Stationary Engineers and Boiler Operators

Operate or maintain stationary engines, boilers, or other mechanical equipment to provide utilities for buildings or industrial processes. Operate equipment, such as steam engines, generators, motors, turbines, and steam boilers.

Illustrative Examples: Cooling System Operator, Low Pressure Firer, Steam Engineer

51-8031 Water and Liquid Waste Treatment Plant and System Operators

Operate or control an entire process or system of machines, often through the use of control boards, to transfer or treat water or liquid waste.

Illustrative Examples: Disposal Operator, Filtration Plant Operator, Sewage Plant Operator

51-8093 Petroleum Pump System Operators, Refinery Operators and Gaugers

Control the operation of petroleum refining or processing units. May specialize in controlling manifold and pumping systems, gauging or testing oil in storage tanks, or regulating the flow of oil into pipelines.

Illustrative Examples: Absorption Plant Operator, Gasoline Plant Operator, Oil Refiner

51-9012 Separating, Filtering, Clarifying, Precipitating and Still Machine Setters, Operators and Tenders

Set up, operate, or tend continuous flow or vat-type equipment; filter presses; shaker screens; centrifuges; condenser tubes; precipitating, fermenting, or evaporating tanks; scrubbing towers; or batch stills. These machines extract, sort, or separate liquids, gases, or solids from other materials to recover a refined product. Include dairy processing equipment operators. Exclude "Chemical Equipment Operators and Tenders" (51-9011).

Illustrative Examples: Brewmaster, Dairy Processing Equipment Operator, Distiller

51-9021 Crushing, Grinding and Polishing Machine Setters, Operators and Tenders

Set up, operate, or tend machines to crush, grind, or polish materials, such as coal, glass, grain, stone, food, or rubber.

Illustrative Examples: Beveling and Edging Machine Operator, Pulverizer Operator, Sandblast Operator

51-9022 Grinding and Polishing Workers, Hand

Grind, sand, or polish, using hand tools or handheld power tools, a variety of metal, wood, stone, clay, plastic, or glass objects. Include chippers, buffers, and finishers.

Illustrative Examples: Metal Sander, Gun Barrel Finisher, Hand Buffer

51-9023 Mixing and Blending Machine Setters, Operators, and Tenders

Set up, operate, or tend machines to mix or blend materials, such as chemicals, tobacco, liquids, color pigments, or explosive ingredients. Exclude "Food Batchmakers" (51-3092).

Illustrative Examples: Batchmaker, Clay Mixer, Tumbler Tender

51-9031 Cutters and Trimmers, Hand

Use hand tools or handheld power tools to cut and trim a variety of manufactured items, such as carpet, fabric, stone, glass, or rubber.

Illustrative Examples: Buttonhole Maker, Fur Trimmer, Thread Clipper

51-9051 Furnace, Kiln, Oven, Drier and Kettle Operators and Tenders

Operate or tend heating equipment other than basic metal, plastic, or food processing equipment. Includes activities, such as annealing glass, drying lumber, curing rubber, removing moisture from materials, or boiling soap.

Illustrative Examples: Brick Baker, Stoker, Tunnel Kiln Operator

51-9061 Inspectors, Testers, Sorters, Samplers and Weighers

Inspect, test, sort, sample, or weigh nonagricultural raw materials or processed, machined, fabricated, or assembled parts or products for defects, wear, and deviations from specifications. May use precision measuring instruments and complex test equipment.

Illustrative Examples: Bearing Inspector, Quality Checker, Testing and Regulating Technician

51-9071 Jewelers and Precious Stone and Metal Workers

Design, fabricate, adjust, repair, or appraise jewelry, gold, silver, other precious metals, or gems. Include diamond polishers and gem cutters and persons who perform precision casting and modeling of molds, casting metal in molds, or setting precious and semiprecious stones for jewelry and related products.

Illustrative Examples: Diamond Expert, Gemologist, Goldsmith

51-9081 Dental Laboratory Technicians

Construct and repair full or partial dentures or dental appliances. Exclude "Dental Assistants" (31-9091).

Illustrative Examples: Ceramist, Crown and Bridge Technician, Orthodontic Technician

51-9083 Ophthalmic Laboratory Technicians

Cut, grind, and polish eyeglasses, contact lenses, or other precision optical elements. Assemble and mount lenses into frames or process other optical elements. Include precision lens polishers or grinders, centerer edgers, and lens mounters. Exclude "Opticians, Dispensing" (29-2081).

Illustrative Examples: Eyeglass Maker, Lens Grinder, Spectacle Truer

51-9111 Packaging and Filling Machine Operators and Tenders

Operate or tend machines to prepare industrial or consumer products for storage or shipment. Include cannery workers who pack food products.

Illustrative Examples: Bottle Caser, Wrapper Layer, Strapping Machine Operator

51-9121 Coating, Painting and Spraying Machine Setters, Operators and Tenders

Set up, operate, or tend machines to coat or paint any of a wide variety of products including food, glassware, cloth, ceramics, metal, plastic, paper, or wood, with lacquer, silver, copper, rubber, varnish, glaze, enamel, oil, or rust-proofing materials. Exclude "Plating and Coating Machine Setters, Operators and Tenders, Metal and Plastic" (51-4193) and "Painters, Transportation Equipment" (51-9122).

Illustrative Examples: Electrostatic Paint Operator, Silvering Applicator, Supercalender Operator

51-9123 Painting, Coating and Decorating Workers

Paint, coat, or decorate articles, such as furniture, glass, plateware, pottery, jewelry, cakes, toys, books, or leather.

Exclude "Artists and Related Workers" (27-1011 through 27-1019), "Designers" (27-1021 through 27-1029),

"Photographic Process Workers" (51-9131), and "Etchers and Engravers" (51-9194).

Illustrative Examples: Stenciler, Candy Dipper, Mirror Silverer

51-9131 Photographic Process Workers

Perform precision work involved in photographic processing, such as editing photographic negatives and prints, using photomechanical, chemical, or computerized methods.

Illustrative Examples: Photographic Colorist, Darkroom Technician, Photo Finisher

51-9132 Photographic Processing Machine Operators

Operate photographic processing machines, such as photographic printing machines, film developing machines, and mounting presses.

Illustrative Examples: Film Printer, Film Processor, Reproduction Machine Loader

51-9191 Cementing and Gluing Machine Operators and Tenders

Operate or tend cementing and gluing machines to join items for further processing or to form a completed product.

Processes include joining veneer sheets into plywood; gluing paper; joining rubber and rubberized fabric parts, plastic, simulated leather, or other materials. Exclude "Shoe Machine Operators and Tenders" (51-6042).

Illustrative Examples: Bonding Molder, Paper Sealer, Taper Operator

51-9198 Helpers, Production Workers

Help production workers by performing duties of lesser skill. Duties include supplying or holding materials or tools, and cleaning work area and equipment. Exclude apprentice workers and report them with the appropriate production occupation (51-1011 through 51-9199).

Illustrative Examples: Welder's Assistant, Tailor's Aide, Millwright's Helper

Transportation and Material Moving Occupations

53-1021 First-Line Supervisors/Managers of Helpers, Laborers and Material Movers, Hand

Supervise and coordinate the activities of helpers, laborers, or material movers.

Illustrative Examples: Cargo Supervisor, Yard Supervisor, Warehouse Supervisor

53-1031 First-Line Supervisors/Managers of Transportation and Material-Moving Machine and Vehicle Operators

Directly supervise and coordinate activities of transportation and material-moving machine and vehicle operators and helpers.

Illustrative Examples: Dockmaster, Gas Station Manager, Roadmaster

53-2011 Airline Pilots, Copilots and Flight Engineers

Pilot and navigate the flight of multiengine aircraft in regularly scheduled service for the transport of passengers and cargo. Requires Federal Air Transport rating and certification in specific aircraft type used. Include aircraft instructors with similar certification.

Illustrative Examples: Airline Captain, First Officer, Flight Navigator

53-2012 Commercial Pilots

Pilot and navigate the flight of small fixed or rotary winged aircraft, primarily for the transport of cargo and passengers. Requires commercial rating. Include aircraft instructors with similar certification.

Illustrative Examples: Crop Duster, Helicopter Pilot, Test Pilot

53-3011 Ambulance Drivers and Attendants, Except Emergency Medical Technicians

Drive ambulance or assist ambulance driver in transporting sick, injured, or convalescent persons. Assist in lifting patients.

Illustrative Example: Patient Carrier

53-3021 Bus Drivers, Transit and Intercity

Drive bus or motor coach, including regular route operations, charters, and private carriage. May assist passengers with baggage. May collect fares or tickets.

Illustrative Examples: Motor Coach Operator, Jitney Driver

53-3022 Bus Drivers, School

Transport students or special clients, such as the elderly or persons with disabilities. Ensure adherence to safety rules. May assist passengers in boarding or exiting.

53-3031 Driver/Sales Workers

Drive truck or other vehicle over established routes or within an established territory and sell goods, such as food products, including restaurant take-out items, or pick up and deliver items, such as laundry. May also take orders and collect payments. Include newspaper delivery drivers. Exclude "Truck Drivers, Light or Delivery Services" (53-3033) and "Coin, Vending and Amusement Machine Servicers and Repairers" (49-9091).

Illustrative Examples: Bakery Delivery Person, Milk Delivery Person, Bread Distributor

53-3032 Truck Drivers, Heavy and Tractor Trailer

Drive a tractor trailer combination or a truck with a capacity of at least 26,000 GVW, to transport and deliver goods, livestock, or materials in liquid, loose, or packaged form. May be required to unload truck. May require use of automated routing equipment. Requires commercial driver's license.

Illustrative Examples: Auto Carrier Driver, Cement Truck Driver, Moving Van Driver

53-3033 Truck Drivers, Light or Delivery Services

Drive a truck or van with a capacity of under 26,000 GVW, primarily to deliver or pick up merchandise or to deliver packages within a specified area. May require use of automatic routing or location software. May load and unload truck. Exclude "Couriers and Messengers" (43-5021).

Illustrative Example: Parcel Post Truck Driver

53-3041 Taxi Drivers and Chauffeurs

Drive automobiles, vans, or limousines to transport passengers. May occasionally carry cargo. Include hearse drivers. Exclude "Ambulance Drivers and Attendants, Except Emergency Medical Technicians" (53-3011) and "Bus Drivers" (53-3021 through 53-3022).

Illustrative Examples: Cabdriver, Courtesy Van Driver, Limousine Driver

53-4011 Locomotive Engineers

Drive electric, diesel-electric, steam, or gas-turbine-electric locomotives to transport passengers or freight. Interpret train orders, electronic or manual signals, and railroad rules and regulations.

Illustrative Examples: Diesel Engineer, Narrow Gauge Operator, Railcar Operator

53-4013 Rail Yard Engineers, Dinkey Operators, and Hostlers

Drive switching or other locomotive or dinkey engines within railroad yard, industrial plant, quarry, construction project, or similar location.

Illustrative Examples: Car Mover, Larry Car Operator, Coal Tram Driver

53-4031 Railroad Conductors and Yardmasters

Conductors coordinate activities of train crew on passenger or freight train. Coordinate activities of switch-engine crew within yard of railroad, industrial plant, or similar location. Yardmasters coordinate activities of workers engaged in railroad traffic operations, such as the makeup or breakup of trains, yard switching, and review train schedules and switching orders.

Illustrative Examples: Car Dispatcher, Roadmaster, Yard Pilot

53-6021 Parking Lot Attendants

Park automobiles or issue tickets for customers in a parking lot or garage. May collect fee.

Illustrative Examples: Carhop, Car Runner, Valet Parker

53-6031 Service Station Attendants

Service automobiles, buses, trucks, boats, and other automotive or marine vehicles with fuel, lubricants, and accessories. Collect payment for services and supplies. May lubricate vehicle, change motor oil, install antifreeze, or replace lights or other accessories, such as windshield wiper blades or fan belts. May repair or replace tires.

Illustrative Examples: Filling Station Attendant, Gas and Oil Servicer, Pump Attendant

53-6051 Transportation Inspectors

Inspect equipment or goods in connection with the safe transport of cargo or people. Include rail transport inspectors, such as freight inspectors, car inspectors, rail inspectors, and other nonprecision inspectors of other types of transportation vehicles.

Illustrative Examples: Airplane Inspector, Motor Vehicle Examiner, Safety Agent

53-7011 Conveyor Operators and Tenders

Control or tend conveyors or conveyor systems that move materials or products to and from stockpiles, processing stations, departments, or vehicles. May control speed and routing of materials or products.

Illustrative Examples: Belt Tender, Grain Elevator Operator

53-7021 Crane and Tower Operators

Operate mechanical boom and cable or tower and cable equipment to lift and move materials, machines, or products in many directions. Exclude "Excavating and Loading Machine and Dragline Operators" (53-7032).

Illustrative Examples: Boom swing Operator, Cherry Picker Operator, Scrap Drop Operator

53-7032 Excavating and Loading Machine and Dragline Operators

Operate or tend machinery equipped with scoops, shovels, or buckets, to excavate and load loose materials. Exclude "Dredge Operators" (53-7031).

Illustrative Examples: Backhoe Operator, Payloader Operator, Shovel Operator

53-7041 Hoist and Winch Operators

Operate or tend hoists or winches to lift and pull loads using power-operated cable equipment. Exclude "Crane and Tower Operators" (53-7021).

Illustrative Examples: Derrick Operator, Hydraulic Boom Operator, Well Puller

53-7051 Industrial Truck and Tractor Operators

Operate industrial trucks or tractors equipped to move materials around a warehouse, storage yard, factory, construction site, or similar location. Exclude "Logging Equipment Operators" (45-4022).

Illustrative Examples: Forklift Driver, Skidder Operator, Stacker Operator

53-7061 Cleaners of Vehicles and Equipment

Wash or otherwise clean vehicles, machinery, and other equipment. Use such materials as water, cleaning agents, brushes, cloths, and hoses. Exclude "Janitors and Cleaners, Except Maids and Housekeeping Cleaners" (37-2011).

Illustrative Examples: Barrel Washer, Auto Detailer, Machine Cleaner

53-7062 Laborers and Freight, Stock and Material Movers, Hand

Manually move freight, stock, or other materials or perform other unskilled general labor. Include all unskilled manual laborers not elsewhere classified. Exclude "Material Moving Workers" (53-7011 through 53-7199) who use power equipment. Exclude "Construction Laborers" (47-2061) and "Construction Trades Helpers" (47-3011 through 47-3019).

Illustrative Examples: Cargo Handler, Stevedore, Truck Loader and Unloader

53-7063 Machine Feeders and Offbearers

Feed materials into or remove materials from machines or equipment that is automatic or tended by other workers.

Illustrative Examples: Hopper Filler, Board Catcher, Doffer

53-7064 Packers and Packagers, Hand

Pack or package by hand a wide variety of products and materials.

Illustrative Examples: Bagger, Boxer, Gift Wrapper

53-7071 Gas Compressor and Gas Pumping Station Operators

Operate steam, gas, electric motor, or internal combustion engine driven compressors. Transmit, compress, or recover gases, such as butane, nitrogen, hydrogen, and natural gas.

Illustrative Examples: Gas Booster Engineer, Gas Transfer Operator

53-7073 Wellhead Pumpers

Operate power pumps and auxiliary equipment to produce flow of oil or gas from wells in oil field.

Illustrative Example: Oil Well Service Operator

53-7081 Refuse and Recyclable Material Collectors

Collect and dump refuse or recyclable materials from containers into truck. May drive truck.

Illustrative Examples: Garbage Collector, Scrap Metal Collector, Trash Collector

Appendix



Wage Conversion Table



Survey Methodology

Wage Conversion Table

Hourly	Weekly	Monthly	Annually	Hourly	Weekly	Monthly	Annually
\$5.00	\$200.00	\$866.67	\$10,400.00	\$10.50	\$420.00	\$1,820.00	\$21,840.00
5.10	204.00	884.00	10,608.00	10.60	424.00	1,837.33	22,048.00
5.20	208.00	901.33	10,816.00	10.70	428.00	1,854.67	22,256.00
5.30	212.00	918.67	11,024.00	10.80	432.00	1,872.00	22,464.00
5.40	216.00	936.00	11,232.00	10.90	436.00	1,889.33	22,672.00
5.50	220.00	953.33	11,440.00	11.00	440.00	1,906.67	22,880.00
5.60	224.00	970.67	11,648.00	11.10	444.00	1,924.00	23,088.00
5.70	228.00	988.00	11,856.00	11.20	448.00	1,941.33	23,296.00
5.80	232.00	1,005.33	12,064.00	11.30	452.00	1,958.67	23,504.00
5.90	236.00	1,022.67	12,272.00	11.40	456.00	1,976.00	23,712.00
6.00	240.00	1,040.00	12,480.00	11.50	460.00	1,993.33	23,920.00
6.10	244.00	1,057.33	12,688.00	11.60	464.00	2,010.67	24,128.00
6.20	248.00	1,074.67	12,896.00	11.70	468.00	2,028.00	24,336.00
6.30	252.00	1,092.00	13,104.00	11.80	472.00	2,045.33	24,544.00
6.40	256.00	1,109.33	13,312.00	11.90	476.00	2,062.67	24,752.00
6.50	260.00	1,126.67	13,520.00	12.00	480.00	2,080.00	24,960.00
6.60	264.00	1,144.00	13,728.00	12.10	484.00	2,097.33	25,168.00
6.70	268.00	1,161.33	13,936.00	12.20	488.00	2,114.67	25,376.00
6.80	272.00	1,178.67	14,144.00	12.30	492.00	2,132.00	25,584.00
6.90	276.00	1,196.00	14,352.00	12.40	496.00	2,149.33	25,792.00
7.00	280.00	1,213.33	14,560.00	12.50	500.00	2,166.67	26,000.00
7.10	284.00	1,230.67	14,768.00	12.60	504.00	2,184.00	26,208.00
7.20	288.00	1,248.00	14,976.00	12.70	508.00	2,201.33	26,416.00
7.30	292.00	1,265.33	15,184.00	12.80	512.00	2,218.67	26,624.00
7.40	296.00	1,282.67	15,392.00	12.90	516.00	2,236.00	26,832.00
7.50	300.00	1,300.00	15,600.00	13.00	520.00	2,253.33	27,040.00
7.60	304.00	1,317.33	15,808.00	13.10	524.00	2,270.67	27,248.00
7.70	308.00	1,334.67	16,016.00	13.20	528.00	2,288.00	27,456.00
7.80	312.00	1,352.00	16,224.00	13.30	532.00	2,305.33	27,664.00
7.90	316.00	1,369.33	16,432.00	13.40	536.00	2,322.67	27,872.00
8.00	320.00	1,386.67	16,640.00	13.50	540.00	2,340.00	28,080.00
8.10	324.00	1,404.00	16,848.00	13.60	544.00	2,357.33	28,288.00
8.20	328.00	1,421.33	17,056.00	13.70	548.00	2,374.67	28,496.00
8.30	332.00	1,438.67	17,264.00	13.80	552.00	2,392.00	28,704.00
8.40	336.00	1,456.00	17,472.00	13.90	556.00	2,409.33	28,912.00
8.50	340.00	1,473.33	17,680.00	14.00	560.00	2,426.67	29,120.00
8.60	344.00	1,490.67	17,888.00	14.10	564.00	2,444.00	29,328.00
8.70	348.00	1,508.00	18,096.00	14.20	568.00	2,461.33	29,536.00
8.80	352.00	1,525.33	18,304.00	14.30	572.00	2,478.67	29,744.00
8.90	356.00	1,542.67	18,512.00	14.40	576.00	2,496.00	29,952.00
9.00	360.00	1,560.00	18,720.00	14.50	580.00	2,513.33	30,160.00
9.10	364.00	1,577.33	18,928.00	14.60	584.00	2,530.67	30,368.00
9.20	368.00	1,594.67	19,136.00	14.70	588.00	2,548.00	30,576.00
9.30	372.00	1,612.00	19,344.00	14.80	592.00	2,565.33	30,784.00
9.40	376.00	1,629.33	19,552.00	14.90	596.00	2,582.67	30,992.00
9.50	380.00	1,646.67	19,760.00	15.00	600.00	2,600.00	31,200.00
9.60	384.00	1,664.00	19,968.00	15.10	604.00	2,617.33	31,408.00
9.70	388.00	1,681.33	20,176.00	15.20	608.00	2,634.67	31,616.00
9.80	392.00	1,698.67	20,384.00	15.30	612.00	2,652.00	31,824.00
9.90	396.00	1,716.00	20,592.00	15.40	616.00	2,669.33	32,032.00
10.00	400.00	1,733.33	20,800.00	15.50	620.00	2,686.67	32,240.00
10.10	404.00	1,750.67	21,008.00	15.60	624.00	2,704.00	32,448.00
10.20	408.00	1,768.00	21,216.00	15.70	628.00	2,721.33	32,656.00
10.30	412.00	1,785.33	21,424.00	15.80	632.00	2,738.67	32,864.00
10.40	416.00	1,802.67	21,632.00	15.90	636.00	2,756.00	33,072.00

Wage Conversion Table

Hourly	Weekly	Monthly	Annually	Hourly	Weekly	Monthly	Annually
\$16.00	\$640.00	\$2,773.33	\$33,280.00	\$21.50	\$860.00	\$3,726.67	\$44,720.00
16.10	644.00	2,790.67	33,488.00	21.60	864.00	3,744.00	44,928.00
16.20	648.00	2,808.00	33,696.00	21.70	868.00	3,761.33	45,136.00
16.30	652.00	2,825.33	33,904.00	21.80	872.00	3,778.67	45,344.00
16.40	656.00	2,842.67	34,112.00	21.90	876.00	3,796.00	45,552.00
16.50	660.00	2,860.00	34,320.00	22.00	880.00	3,813.33	45,760.00
16.60	664.00	2,877.33	34,528.00	22.10	884.00	3,830.67	45,968.00
16.70	668.00	2,894.67	34,736.00	22.20	888.00	3,848.00	46,176.00
16.80	672.00	2,912.00	34,944.00	22.30	892.00	3,865.33	46,384.00
16.90	676.00	2,929.33	35,152.00	22.40	896.00	3,882.67	46,592.00
17.00	680.00	2,946.67	35,360.00	22.50	900.00	3,900.00	46,800.00
17.10	684.00	2,964.00	35,568.00	22.60	904.00	3,917.33	47,008.00
17.20	688.00	2,981.33	35,776.00	22.70	908.00	3,934.67	47,216.00
17.30	692.00	2,998.67	35,984.00	22.80	912.00	3,952.00	47,424.00
17.40	696.00	3,016.00	36,192.00	22.90	916.00	3,969.33	47,632.00
17.50	700.00	3,033.33	36,400.00	23.00	920.00	3,986.67	47,840.00
17.60	704.00	3,050.67	36,608.00	23.10	924.00	4,004.00	48,048.00
17.70	708.00	3,068.00	36,816.00	23.20	928.00	4,021.33	48,256.00
17.80	712.00	3,085.33	37,024.00	23.30	932.00	4,038.67	48,464.00
17.90	716.00	3,102.67	37,232.00	23.40	936.00	4,056.00	48,672.00
18.00	720.00	3,120.00	37,440.00	23.50	940.00	4,073.33	48,880.00
18.10	724.00	3,137.33	37,648.00	23.60	944.00	4,090.67	49,088.00
18.20	728.00	3,154.67	37,856.00	23.70	948.00	4,108.00	49,296.00
18.30	732.00	3,172.00	38,064.00	23.80	952.00	4,125.33	49,504.00
18.40	736.00	3,189.33	38,272.00	23.90	956.00	4,142.67	49,712.00
18.50	740.00	3,206.67	38,480.00	24.00	960.00	4,160.00	49,920.00
18.60	744.00	3,224.00	38,688.00	24.10	964.00	4,177.33	50,128.00
18.70	748.00	3,241.33	38,896.00	24.20	968.00	4,194.67	50,336.00
18.80	752.00	3,258.67	39,104.00	24.30	972.00	4,212.00	50,544.00
18.90	756.00	3,276.00	39,312.00	24.40	976.00	4,229.33	50,752.00
19.00	760.00	3,293.33	39,520.00	24.50	980.00	4,246.67	50,960.00
19.10	764.00	3,310.67	39,728.00	24.60	984.00	4,264.00	51,168.00
19.20	768.00	3,328.00	39,936.00	24.70	988.00	4,281.33	51,376.00
19.30	772.00	3,345.33	40,144.00	24.80	992.00	4,298.67	51,584.00
19.40	776.00	3,362.67	40,352.00	24.90	996.00	4,316.00	51,792.00
19.50	780.00	3,380.00	40,560.00	25.00	1,000.00	4,333.33	52,000.00
19.60	784.00	3,397.33	40,768.00	25.10	1,004.00	4,350.67	52,208.00
19.70	788.00	3,414.67	40,976.00	25.20	1,008.00	4,368.00	52,416.00
19.80	792.00	3,432.00	41,184.00	25.30	1,012.00	4,385.33	52,624.00
19.90	796.00	3,449.33	41,392.00	25.40	1,016.00	4,402.67	52,832.00
20.00	800.00	3,466.67	41,600.00	25.50	1,020.00	4,420.00	53,040.00
20.10	804.00	3,484.00	41,808.00	25.60	1,024.00	4,437.33	53,248.00
20.20	808.00	3,501.33	42,016.00	25.70	1,028.00	4,454.67	53,456.00
20.30	812.00	3,518.67	42,224.00	25.80	1,032.00	4,472.00	53,664.00
20.40	816.00	3,536.00	42,432.00	25.90	1,036.00	4,489.33	53,872.00
20.50	820.00	3,553.33	42,640.00	26.00	1,040.00	4,506.67	54,080.00
20.60	824.00	3,570.67	42,848.00	26.10	1,044.00	4,524.00	54,288.00
20.70	828.00	3,588.00	43,056.00	26.20	1,048.00	4,541.33	54,496.00
20.80	832.00	3,605.33	43,264.00	26.30	1,052.00	4,558.67	54,704.00
20.90	836.00	3,622.67	43,472.00	26.40	1,056.00	4,576.00	54,912.00
21.00	840.00	3,640.00	43,680.00	26.50	1,060.00	4,593.33	55,120.00
21.10	844.00	3,657.33	43,888.00	26.60	1,064.00	4,610.67	55,328.00
21.20	848.00	3,674.67	44,096.00	26.70	1,068.00	4,628.00	55,536.00
21.30	852.00	3,692.00	44,304.00	26.80	1,072.00	4,645.33	55,744.00
21.40	856.00	3,709.33	44,512.00	26.90	1,076.00	4,662.67	55,952.00

Survey Method and Reliability Statement for the 1999 OES Survey All-Industry Wage Rate Estimates

General

The Occupational Employment Statistics (OES) survey is an annual mail survey measuring occupational employment and wage rates for wage and salary workers in nonfarm establishments, by industry. The survey samples approximately 400,000 establishments nationally per year, taking three years to fully collect the sample of 1.2 million establishments. The Bureau of Labor Statistics (BLS) and the Employment and Training Administration (ETA) provide funding for the survey. BLS provides the procedures and technical support, while the State Employment Security Agencies (SESAs) collect the data. The SESAs produce occupational estimates by detailed industries for local areas and the states. BLS produces similar industry-specific estimates for the nation as well as employment and wage estimates for 770 occupations across all industries for the nation, each of the 50 states plus the District of Columbia, and Metropolitan Statistical Areas (MSAs).

Survey Definitions and Concepts

Key definitions are as follows:

An *establishment* is an economic unit, such as a factory, mine, or store which produces goods or services. It is generally at a single location and engaged predominantly in one economic activity.

The OES survey defines *employment* as the number of workers who can be classified as full-time or part-time employees; workers on paid vacations or other types of leave; workers on unpaid short-term absences; salaried officers, executives, and staff members of incorporated firms; employees temporarily assigned to other units; and employees for whom the reporting unit is their permanent duty station regardless of whether that unit prepares their paycheck. The survey excludes the self-employed, owners/partners of unincorporated firms, and unpaid family workers. Employees are reported in the occupation in which they are working, not necessarily for which they were trained.

Employment represents the estimate of total wage and salary employment in an occupation across the industries in which it was reported. The OES survey form sent to an establishment contains between 50 and 225 OES occupations. The number of occupations listed on a form depends on the industry classification and size class of the sampled establishments. To reduce paperwork and respondent burden, no survey form contains every OES occupation.

The OES classification system uses 22 *major occupational groups* to categorize workers in one of 770 detailed occupations. The 22 occupational groups are as follows:

- Management occupations
- Business and financial operations occupations
- Computer and mathematical occupations
- Architecture and engineering occupations
- Life, physical and social science occupations
- Community and social services occupations
- Legal occupations
- Education, training and library occupations
- Arts, design, entertainment, sports and media occupations
- Healthcare practitioners and technical occupations
- Healthcare support occupations
- Protective service occupations
- Food preparation and serving related occupations
- Building and grounds cleaning and maintenance occupations
- Personal care and service occupations
- Sales and related occupations
- Office and administrative support occupations
- Farming, fishing and forestry occupations
- Construction and extraction occupations
- Installation, maintenance and repair occupations
- Production occupations
- Transportation and material moving occupations

Wages for the OES survey are straight-time, gross pay, exclusive of premium pay. Included are base rate, cost-of-living allowances, guaranteed pay, hazardous-duty pay, incentive pay, including commissions and production bonuses, tips and on-call pay. Excluded are back pay, jury duty pay, overtime pay, severance pay, shift differentials, nonproduction bonuses, and tuition reimbursements. The OES survey collects wage data in 12 intervals. Employers report the number of employees in an occupation per each wage range. The wage intervals used for the 1999 survey are as follows:

Interval	Hourly Wages	Annual Wages
Range A	Under \$6.75	Under \$14,040
Range B	\$6.75 to \$8.49	\$14,040 to \$17,679
Range C	\$8.50 to \$10.74	\$17,680 to \$22,359
Range D	\$10.75 to \$13.49	\$22,360 to \$28,079
Range E	\$13.50 to \$16.99	\$28,080 to \$35,359
Range F	\$17.00 to \$21.49	\$35,360 to \$44,719
Range G	\$21.50 to \$27.24	\$44,720 to \$56,679
Range H	\$27.25 to \$34.49	\$56,680 to \$71,759
Range I	\$34.50 to \$43.74	\$71,760 to \$90,999
Range J	\$43.75 to \$55.49	\$91,000 to \$115,439
Range K	\$55.50 to \$69.99	\$115,440 to \$145,599
Range L	\$70.00 and over	\$145,600 and over

Hourly versus annual wage reporting: For each occupation, respondents are asked to report the number of employees paid within specific wage intervals. The intervals are defined both as hourly rates and the corresponding annual rates, where the annual rates are constructed by multiplying the hourly wage rate for the interval by the typical work year of 2,080 hours. In reporting, the respondent can reference either the hourly or the annual rate, but is instructed to report the hourly rate for part-time workers.

Annual wage: Most of the annual mean wage estimates in this release are calculated by multiplying the mean wage by a “year-round, full-time” hours figure of 2,080 hours per year (52 weeks by 40 hours). Most employees are paid at an hourly rate by their employers and may work less than or more than 40 hours per week. Thus, the annual wage estimates may not represent the actual annual pay received by the employee.

There are a small number of occupations where only an annual wage figure is provided. The workers in these occupations generally work less than the usual 2,080 hours per year. Since the survey does not collect the actual hours worked, the hourly rate cannot be calculated from the annual wages. For these occupations, therefore, only the annual salary is reported, which has been calculated directly from the data (rather than by multiplying an hourly figure by 2,080 hours). Occupations that typically have a work year of less than 2,080 hours include musical and entertainment occupations, pilots and flight attendants, and teachers.

The *Unemployment Insurance (UI) Address File* is a micro-level employer file prepared quarterly by each State’s Employment Security Agency and submitted to the Bureau of Labor Statistics. For 1999, the file from June 1998 is used as a sampling frame while the fourth quarter of 1999 is used as a current source of population values for employment and units.

Industry classifications are based on the 1987 *Standard Industrial Classification Manual*, Office of Management and Budget. Industry is classified on the basis of the major product or activity of the establishment, as determined by total sales or receipts of the calendar year prior to classification.

Scope of Survey

The OES survey currently uses the Standard Industrial Classification (SIC) system to classify all establishments. An establishment is defined as an economic unit that processes goods or provides services, such as factory, mine or store. The establishment is generally at a single physical location and is engaged primarily in one type of economic activity. The scope of the survey includes establishments in SIC codes 07, 10, 12-17, 20-42, 44-65, 67, 70, 72, 73, 75, 76, 78-84, 86, 87, and 89. This scope covers agricultural services, mining, construction, manufacturing, transportation and public utilities, wholesale and retail trade, finance, insurance and real estate, and services. Data for the postal service (SIC code 43) and federal government are universe counts obtained from the Office of Personnel Management.

Sampling Procedures

States' Unemployment Insurance (UI) files provide the universe from which the OES survey draws its sample. The employment benchmarks are obtained from reports submitted by employers to the UI program. In some nonmanufacturing industries, supplemental sources are used for establishments not reporting to the UI program. The OES survey sample is stratified by area, industry and size class. Size classes are defined as follows:

Size class	Number of employees
1	1 to 4
2	5 to 9
3	10 to 19
4	20 to 49
5	50 to 99
6	100 to 249
7	250 and above

UI reporting units with 250 or more employees are sampled with certainty across a three-year period. Many states sample one-third of their certainty units each year. However, there are some states that sample more than one-third of their certainty units during one survey year. In 1997, establishments in size classes 2 to 6 were selected based on a probability sample. The sampling weights in size class 2 were adjusted to account for the employment in size class 1. In 1998, the OES Survey began sampling establishments in size class 1; thus, establishments in all size classes are now represented in the probability sample.

Method of Calculation

Survey schedules were initially mailed to all sampled establishments.

Two additional mailings were sent to nonresponding establishments. Telephone follow-ups were made to nonrespondents considered crucial to the survey because of their size.

Response

Subsequent to the closeout date for national estimates, additional data were collected by the states and used to prepare their own estimates. Consequently, the response rates in most states are higher than the response rate used to develop estimates of all-industry wage rates for each MSA.

Estimation Methodology

The OES survey samples approximately 400,000 establishments each year and, over a three-year period, contacts approximately 1.2 million establishments. Each single-year sample represents a one-third sample of both the certainty and non-certainty strata for the full three-year sample plan. While estimates can be made from a single year of data, the OES survey has been designed to produce estimates using the full three years of data. The full three-year sample allows the production of estimates at fine levels of geography, industry, and occupational detail, while estimates using any one year of data would be subject to a higher sampling error (due to the smaller sample size) and the limitations associated with having only one-third of the units from the certainty strata. Producing estimates using the three years of sample data provides significant sampling error reductions (particularly for small geographic areas and occupations); however, it also has some quality limitations in that it requires the adjustment of earlier years' data to the current reference period—a procedure referred to as "wage updating."

Wage Updating: As noted above, combining multiple years of data has both statistical advantages and limitations. Significant reductions in sampling error can be achieved by taking advantage of three years of data, which covers over 70 percent of the employment in the United States. This feature is particularly important in improving the reliability of estimates for small domains in the population (that is, wage and employment estimates for detailed occupations in small areas). Combining multiple years of data also has been necessary to obtain full coverage of the certainty strata (that is, large employers with 250+ employment).

Starting with the 1997 estimates, the OES program has used the over-the-year fourth-quarter wage changes from the Bureau's Employment Cost Index to adjust prior year survey data before combining it with the current year data. The wage updating procedure assumes that each occupation's wage, as measured in the earlier years, moves according to the average movement of its occupational division and that there are no major geographic or detailed occupational differences—and this may not be the case. The Bureau has conducted research over the past several years on the accuracy of the Employment Cost Index wage updating method versus other modeling approaches. Current research results support the continued use of the Employment Cost Index wage updating methodology.

The 1999 OES survey estimates: Beginning in 1999, the OES survey began using an occupational coding structure based on OMB's Standard Occupational Classification System. For 374 occupations that were one-to-one matches or direct aggregations between the two coding systems, the 1999 OES survey wage estimates are developed from the full three years of OES survey data. Wages for 15 occupations that are one-to-one matches but had significant employment in the new wage range for workers earning \$70 per hour and above are estimated using the 1999 survey data only.

The remaining occupational wage estimates are developed from the 1999 survey data alone, which covers approximately 400,000 establishments. The combined 1997, 1998 and 1999 data cover approximately 1.2 million sample units. The 1999 employment estimates for all occupations are developed using the 1999 data alone.

The 1999 estimates use the wage updating methodology introduced in 1997, which uses the over-the-year fourth-quarter wage changes from the Bureau's Employment Cost Index to adjust prior years' data before combining them with data from the current year. In addition, the 1999 estimates use the estimation methodology introduced in 1997, which uses a "nearest neighbor" imputation approach for nonrespondents and applies employment benchmarks at a detailed MSA by three-digit industry and broad size class level.

Another challenge in combining data has been the 1999 transition to a new SOC-based OES occupational coding system. The 1997 and 1998 data were cross-walked to the new SOC-based classification system. Although most of the old OES occupations can be cross-walked to a counterpart in the new system, many of the relations between the two coding systems are not one-to-one. Many old OES occupations are cross-walked to residual occupations, meaning that occupation is no longer surveyed as a detailed occupation. Likewise, there are occupations in the new system that were not surveyed in the old system and thus there is only one year's worth of data for those occupations. For more information about the SOC, please see the BLS website at http://stats.bls.gov/soc/soc_home.htm

Future research: The expanded OES survey is a relatively new program, and BLS has a number of research efforts under way. Some areas of future research are given below.

Sample design research—BLS is evaluating the feasibility of collecting all certainty units (that is, large employers of 250+) every year so that more accurate independent estimates from a single year of sample data can be produced. These estimates will not contain possible effects from the wage updating procedure and can provide an independent measure of the accuracy of the updating procedure along with the ability to use these data directly for more aggregate levels of publication.

Collection methodology research—This includes research on alternative electronic collection reporting procedures for respondents.

Estimation methodology research—An important research effort over the next several years will be the evaluation of the current wage updating methodology along with the identification of alternative modeling approaches that may produce improved overall accuracy.

A *mean wage* and a *median wage* are calculated using wage data from establishments in the industries that reported employment for an occupation.

Mean wage is the estimated total wages for an occupation divided by its weighted survey employment. For the upper open-ended wage interval, a Winsorized mean procedure is used to estimate the mean wage. That is, the mean wage value for the upper open-ended wage interval is set at its lower bound (\$60.01). For the other intervals, a mean wage value was calculated based on occupational wage data collected by the Office of Compensation and Working Conditions. These interval mean wage values are then attributed to all workers reported in the interval. For each occupation, total weighted wages in each interval (i.e., mean wages times weighted employment) are summed across all intervals and divided by the occupation's weighted survey employment to obtain a mean wage.

Median wage is the estimated 50th percentile of the distribution of wages; 50 percent of workers in an occupation earn wages below, and 50 percent earn wages above the median wage. The wage interval containing the mean wage is located using a cumulative frequency count of employment across wage intervals. After the targeted wage interval is identified, the median wage rate is then estimated by a linear interpolation procedure.

Reliability of the Estimates

The occupational wage rates in this report are estimates derived from a sample survey. Two types of errors are possible in an estimate based on a sample survey – sampling error and nonsampling error. Sampling error occurs because the observations are based on a sample, not on the entire population. Nonsampling error is due to response, nonresponse, and operational errors.

Nonsampling errors—Estimates are subject to various response, nonresponse, and operational errors during the survey process. Sources of possible errors are data collection, response, coding, transcription, data editing, nonresponse adjustment, and estimation. These errors would also occur if a complete census were conducted under the same conditions as the sample survey. Explicit measures of their effects are not available. However, it is believed that the important response and operational errors were detected and corrected during the review and validation process.

The employment total and wage data for the occupation reflects only those industries that reported the occupation. This occurs primarily in those industries where the occupation appeared on the survey form. Since every occupation does not appear on every industry-specific form, there may be a bias in the employment and wage data for some occupations. The extent of this bias is unknown.

Another source of potential bias is the limitations placed on the size of the benchmark factors. A benchmark factor is the ratio of a known employment value to a sample-derived employment estimate. This factor is used to make a post-stratification adjustment that makes the total weighted employment estimate at the state/three-digit SIC industry/Metropolitan Statistical Area (MSA)/employment size class level match the population employment at that level.

The source of the population employment data is the state's Quarterly Unemployment Insurance files for the reference period of the survey. In cases where a small sample was taken, the ratio factor can become large or small. In order to prevent an establishment from contributing either too much or not enough to an MSA's wage rate estimates, the benchmark factor was not allowed to exceed a predetermined value. The total employment count for those MSAs where the benchmark factor was limited by this ceiling will be biased to a small degree in those strata. The employment not assigned to those strata because of this ceiling was then distributed across the other MSAs in the state/three-digit industry, so that the estimated employment of the state/three-digit industry would match the known employment totals at that level.

Sampling errors – The particular sample used in this survey is one of a large number of possible samples of the same size that could have been selected using the same sample design. For example, occupational wage rate estimates derived from the different samples will differ from one another. The deviation of a sample estimate from the average of all possible sample estimates is called the sampling error. The standard error of an estimate is a measure of the variation of estimates across all possible samples and thus is a measure of the precision with which an estimate from a particular sample approximates the average result of all possible samples.

Quality Control Measures

Quality control measures implemented in the OES survey include:

- review of the specific occupations to be collected for each industry, and those to be collected in residual categories
- creating and validating the sample frame for all states at BLS-Washington
- allocating and selecting the sample for all states at BLS-Washington
- follow-up solicitations of nonrespondents (especially critical nonrespondents)
- review of survey schedules to verify the accuracy and reasonableness of the reported data
- adjustments of atypical reporting units on the data file
- validation of the nonresponse adjustment factors
- validation of the population employment and ratio factors
- standardized data processing programs and activities

Other Sources of Montana Labor Market Information

In Publications:

The following publications are available, at no charge, from the Montana Department of Labor and Industry's Research and Analysis Bureau:

Census of Fatal Occupational Injuries—Includes information on work-related fatalities in Montana and the U.S.

County labor market information fliers—Provide information on largest private employers, employment by industry, employment and unemployment statistics, population, per capita income, local information resources, etc. for Montana counties with larger populations.

Job Projections for Montana's Industries and Occupations—Presents information developed to help people anticipate which industries and occupations are likely to show job growth in the near future and which are not.

Montana Annual Labor Market Planning Information—Provides labor force characteristics data essential to those involved in planning. Reports how Montana industries fared during the previous year. Presents information on Montana labor force, employment, unemployment, and wages and earnings. Includes job projections by industry and occupation for Montana and the U.S.

Montana Employment and Labor Force Trends—Presents information on statewide and county labor market information. Information is also included on employment by industry, female employment by industry, and average hours and earnings.

Montana labor market information flier—Statewide labor market information on largest private employers, employment by industry, employment and unemployment statistics, population, per capita income, etc.

Montana Occupational Injuries and Illnesses—Includes information on work-related injuries and illnesses, including accident rates and frequencies by industry.

Profile of the Montana Worker—A publication of charts and graphs providing a comprehensive profile of Montana and its labor force.

Statistics in Brief—Pocket-sized reference which includes data on employment and unemployment by county, labor force and service delivery areas.

Wage information publications—Include informational wage rates by occupation for Montana, the U.S., and for Montana's single-county Metropolitan Statistical Areas.

On the Internet:

The Department of Labor and Industry's Research and Analysis Bureau places a wide variety of labor market information on the Internet at <http://rad.dli.state.mt.us/>. Listings of job openings and State of Montana job vacancies can be found at the State Job Service's self-directed job search system address on the Internet at <http://jsd.dli.state.mt.us/>. In addition, Montana job openings are published on America's Job Bank on the Internet World Wide Web Network.

We will do our best to provide information in accessible format, on request, in compliance with the Americans with Disabilities Act.